VIRGINIA WILDLIFE

APRIL 1986 ONE DOLLAR

I have a photograph hanging in my house that most people walk on by, or look sideways at—thinking it might be abstract art. It's a picture of a group of caddis fly nets attached to a submerged rock, taken on the James River in the summer up around Riverville, that a friend gave me 10 years ago. He gave me that photograph because he remembered how charmed I was when I first discovered the caddis fly and mayfly and dragonfly worlds underwater. I couldn't believe that those fairly-like insects flying around in the summer breeze had already battled out over half of their lives hanging onto a rock underwater. I still take a look at that photograph every spring, to remember the caddis flies. It helps put me in my place.

But, 20 years ago, I wouldn't have looked at it twice. Oh, I raised everything from rabbits to lizards, but I also used to line up snails on a picnic table and pour salt on them to watch them fizz. My roommate, today a sensitive animal enthusiast, used to crouch on a bank with a BB gun and shoot at frogs under a cow grate when she was small. She said the frogs used to hide from her, but she'd just sit and wait for them.

I guess it just takes time, maybe even maturity, to develop the kind of conscience and sensitivity we need to interact harmoniously with our environment. There's this big hoopla about starting environmental education in kids, so that they'll learn conservation early. But even with an early introduction, I'm not sure you're ever going to be able to stop kids from plucking the wings off bumblebees and imprisoning fireflies in glass jars.

That's because kids need time. They need the time to make mistakes and then develop a conscience to regret them later. You can't expect a kid to understand the logic of not picking club moss for Christmas wreaths or shooting at songbirds. You can keep them from doing it, but the understanding comes later. People need to be put into the woods and on the streams before they can be expected to develop a love for them.

And that, to me, seems to be the purpose of environmental education. You've got to get kids out onto the muck of cattail marsh or the sycamore shaded river, so that even if they get hot and cranky and hungry out there on the water and end up breaking their lines and your good nature, they'll remember it, and maybe turn back to it—when they've grown up.

I remember looking through a microscope in biology and marvelling at a paramecium, a tiny one-celled animal pirouetting and fanning its spider-like 'feelers.' "Life in a drop of water," the teachers used to call it, admonishing us to remember that there is *life* in everything. Of course, I'd just go on back home and dump some more salt on snails.

But, sometimes, that microscope experience comes back to me. Just like when I'm fishing and turn over another submerged rock, stunned again by the fact that I ain't the only one with property rights on this earth.

When we come back to those places we scuffed up as kids, we get put in our place. When we spend a couple of days outwitted by a few small fish, we realize (again) that we are no more alone or in charge of this world than an amoeba or diatom or caddis fly larvae stuck to a rock.

And it seems to me that this is the best reason for packin' it in and goin' fishin'.

Special Section

Virginia's Put & Take Trout Program

by Robert E. Wollitz
Supervising Fish Biologist

Special Section illustrations by John Snyder

Another trout season is upon us and the stocking trucks will be rolling when you read this article. Since this is the time of year when interest in trout stocking is high, now is probably a good time to discuss Virginia's put and take trout stocking program.

Letters received over the years indicate that there are many misconceptions concerning our stocking programs. Fishermen have suggested that stocking be carried out at night or in the fall, or at various other times. We have also received suggestions that we close the season following stocking so that the trout may scatter and become wild. These and other suggestions tell us that many anglers don't understand what we are attempting to accomplish with the trout stocking program.

The put and take program is exactly what its name implies: catchable sized trout are stocked in streams and lakes to be fished out. Those fish not caught simply die without reproducing.

These trout are not stocked to reestablish fisheries. The put and take trout program provides recreation—nothing more. Why? Because a large portion of the streams stocked are not suitable to provide any type of fishing other than for stocked trout. Stream flows in many of these areas become too low to support trout after May, except following heavy rains. In other streams, water temperatures become too high to support trout after May. To provide trout angling in these streams, it is necessary to stock them annually with trout during the cool spring months. Thus, the put and take program provides fishing in a large number of streams that wouldn't otherwise support it.

The put and take trout stocking program has expanded about as far as it can with the funds available to it. Costs of raising trout are continually increasing due to rising labor costs and the increasing cost of fish food.

During the past few years, however, the stocking program has been criticized by anglers who believe that fishermen over 65 (who are not required to buy a license) are catching most of the trout. During the 1984 season, the Commission conducted a trout angler license survey in which nearly 11,000 anglers were interviewed on opening day and about 6,000 following.

On opening day, 32 percent of the anglers were unlicensed (23 percent under 16 years old and nine percent over 65 years old). After opening day, the percentage of unlicensed fishermen varied from 18-24 percent. Fishermen under 16 years of age varied from 10-11 percent and those over 65, from 9-13 percent. From this it may be seen that the cost of trout fishing in Virginia is being financed by roughly 65 percent of the anglers, and that the age group receiving most of the "free" benefits are those under 16. However, we don't feel like this "freebie" is actually a loss to us or the anglers concerned about the resource. We are hopefully gaining a new constituency in these young people. We need that future support. So do our trout.

While the put and take program is designed to provide instant recreation annually, the Commission is engaged in another program designed to reestablish trout in those streams capable of maintaining trout populations. Some of these streams may be able to support trout populations, and just need a reintroduction of fish; others have all the attributes of a good trout stream except for suitable spawning areas. Thus, we stock these areas as part of our "put and grow" program, to establish self-sustaining and year-round populations.

The "put and grow" and "put and take" trout stocking programs both have specific purposes and accomplish separate goals. Be sure you remember that the next time you see that hatchery truck roll up to your favorite trout stream. Remember to ask the right question about the right program! □

You Need a Boating Safety Course

by Col. William O. Antozzi

According to National Marine Manufacturer's Association studies, the average boat sold in this country is just under 16 feet in length with a 35 horsepower outboard engine. The owner is a middle-class worker who uses his boat for fishing, hunting, waterskiing, or just plain riding around.

A course is needed which will teach the average boater how to operate a boat without becoming a death statistic. Accidents resulting in most fatalities are capsizings and falls overboard, and most occur in small lakes or rivers. Most people who die in boating accidents were not wearing life jackets and drowned. Small boat instability, alcoholic beverages and fatigue are major contributing factors. *In nearly 70 percent of the known cases, the action or inaction of the operator contributed to the fatal accident.*

However, although hundreds of thousands of people take boating courses each year, millions are not reached because most courses are given at night and are too lengthy. The average boater will not commit himself to six, eight, 10 or 12 weeks of night classes, because after a hard day's work he doesn't feel like coming home, eating and then rushing out to class. He (or she) may not be the type who likes to study and take tests. Also, during an extended course, personal problems may cause absences.

A short course with emphasis on boat handling results in greater attendance and could reduce accidents and fatalities. A course which fits the bill is the Virginia Basic Boating Course, composed of six lessons taught in three sessions. The Virginia Commission of Game and Inland Fisheries has prepared over 250 instructors to teach this course who are members of the United States Coast Guard Auxiliary and the U.S. Power Squadron. Regular school teachers have also been trained.

The course and all course material are free. All that is needed is a demand by boaters who want the course.

For more information about the Virginia Game Commission Boating Safety Courses, contact: Jack Cox, Boating Safety Coordinator, P.O. Box 11104, Richmond, VA 23230-1104. □

Game Fish Regulations

Bass

Season: All Year
Limit: 8 combined per day

There is no minimum size for largemouth, smallmouth, and spotted bass except in some Game Commission lakes (so posted) and the following waters; where no bass less than twelve inches may be possessed in:

Reservoirs: Beaverdam (Loudoun County), Chickahominy, Claytor, Flannagan, North Fork of Pound Reservoir, and Philpott. *A slot limit* is in effect in Lake Anna and Lake Chesdin. Bass 12″ to 15″ may not be creeled when caught from Lake Anna or Lake Chesdin.

Rivers: Roanoke (Staunton) River and its tributaries below Difficult Creek, Dan River and its tributaries downstream from the Brantly Steam Plant, North Fork Shenandoah River downstream from Route 42. On the South Fork Shenandoah River, no size limit applies above the power dam at Luray. From this dam at Luray downstream to the mouth of the North Fork Shenandoah River, all fish between 11 and 13 inches (both inclusive) must be returned to the water unharmed. In the Shenandoah River from the mouth of the North Fork Shenandoah to the West Virginia line, and the New River downstream from Claytor Lake and the North Anna all bass must be 12 inches in length.

No bass less than fourteen inches may be possessed (except two bass of lesser size may be retained in the creel) in:

Reservoirs: John Kerr (Buggs Island), Gaston, Smith Mountain and Leesville.

Rivers: Roanoke (Staunton) River and its tributaries below Difficult Creek, Dan River and its tributaries downstream from the Brantly Steam Plant.

(No bass less than 14 inches may be possessed in Occoquan Reservoir from the reservoir dam upstream to the Lake Jackson Dam on Occoquan Creek and upstream to the Yates Ford Bridge on Bull Run Creek).

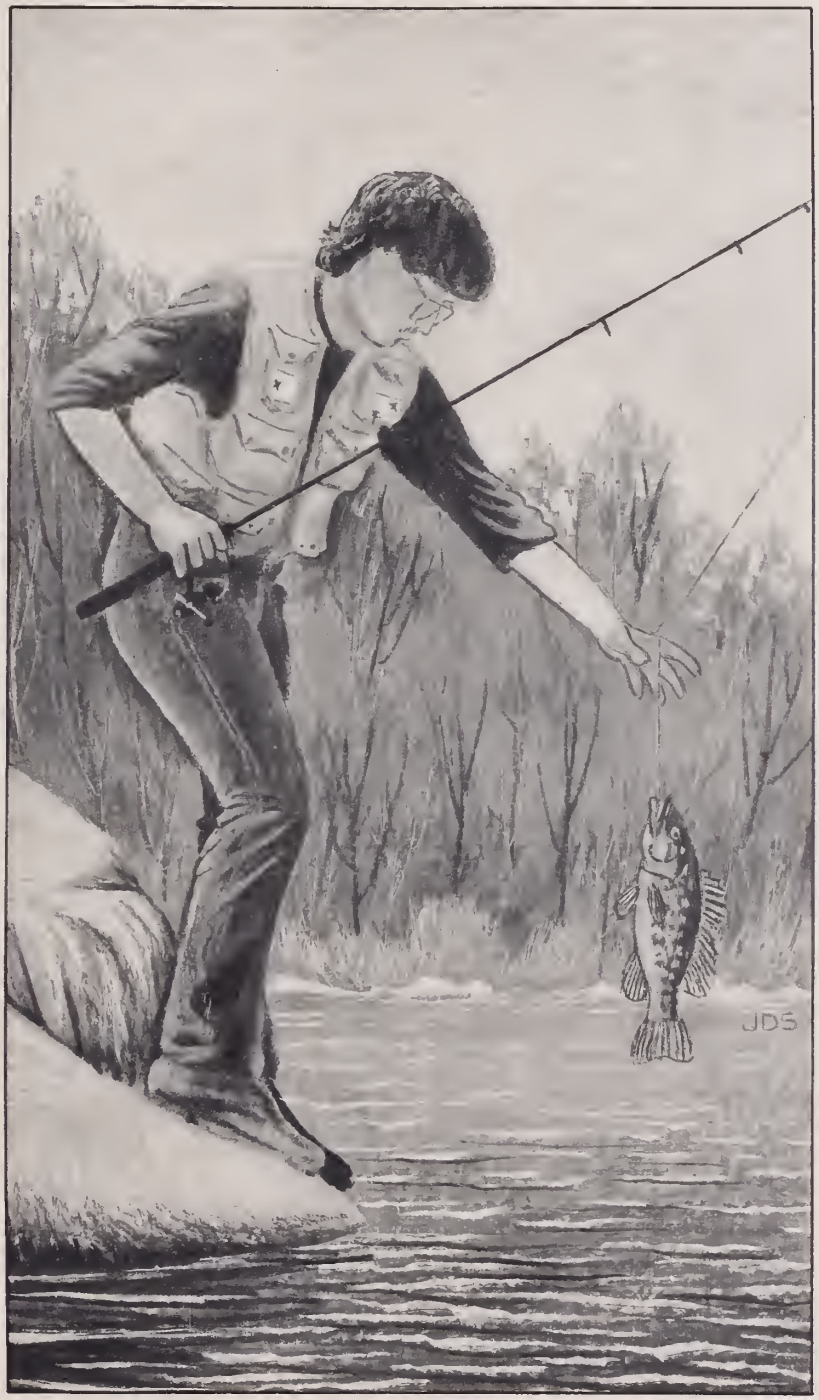
Landlocked Striped Bass and Striped Bass Hybrids

Season: All Year
Minimum Size: 15 inches. Limit: 4 per day (landlocked striped bass and landlocked striped bass hybrids, in the aggregate)

Exception: Smith Mountain Reservoir, the entire lake from Smith Mountain Dam upstream to Niagara Dam on the Roanoke River, creel limit is two. (Landlocked striped bass and landlocked striped bass hybrids, in the aggregate)

Trout

Season: From the first Saturday in April through February 15, both dates inclusive.
Except for the first day, when fishing begins at noon, trout angling hours are from five a.m. until one hour after sunset.



Minimum Size: 7 inches
Creel Limit: 6 per day (see Special Trout Regulations)

Special Trout Regulations

Blue Ridge Parkway: Fishing is prohibited from one half hour after sunset until one half hour before sunrise. No live or dead fish or fish eggs may be used as bait and digging for worms is prohibited. Only artificial lures having single hooks may be used at Peaks of Otter Lake. Creel limits and other special regulations for this impoundment are posted on the lake shore.

Shenandoah National Park: Trout fishing only permitted in park waters. Artificial lures with single hooks only may be used — no bait. Creel limit: 5 trout per day. Season: 12:00 noon, on the first Saturday in April through October 15. Minimum Size: 8 inches.

Sherando Lake in Augusta County —Five day resident and non-resident fishing license will be valid in upper and lower Sherando Lake only from June 1 to Labor Day. Trout license needed at all other times.

Fishing in the following waters is permitted under the following regulations only:

a. Only single hook artificial lures may be used.

b. All fish less than 12 inches must be immediately returned to the water unharmed. No fish less than 12 inches may be in possession while fishing these waters.

c. No bait may be in possession while fishing these waters.

Little River (Floyd County): That portion of stream extending one mile upstream from and two miles downstream from Route 615 bridge.

Snake Creek (Carroll County): Upstream from its mouth to Hall Ford on Big Snake Fork and to the junction of Routes 922 and 674 on Little Snake Fork.

Smith Creek (Alleghany County): That portion from the Clifton Forge Dam downstream to a Forest Service boundary above the C & O Dam.

Fishing in the following waters is permitted under the following regulations only:

a. Only single hook artificial lures may be used.

b. All fish less than 9 inches must be

immediately returned to the water unharmed. No fish less than 9 inches may be in possession while fishing these waters.

c. No bait may be in possession while fishing these waters.

Conway River (Greene and Madison Counties): That portion of stream within the Rapidan Wildlife Management Area. Special limit—8 inches on Conway River.

Green Cove Creek (Washington County): That portion of stream from Route 859 downstream to its mouth.

Little Stony Creek (Giles County): That portion of stream within the Jefferson National Forest.

Little Stony Creek (Shenandoah County): That portion of stream above the Woodstock Water Supply Dam.

North Creek (Botetourt County): That portion of stream and its tributaries upstream from the first bridge above North Creek Campground.

St. Mary's River (Augusta County): That portion of stream and its tributaries upstream from the gate at the George Washington National Forest property line.

Whitetop Laurel (Washington County): That portion of stream upstream from the first railroad trestle above Taylor Valley to the mouth of Green Cove Creek at Creek Junction.

Fishing in the following waters is permitted under the following regulations only:

a. Only single hook artificial lures may be used except that on Mossy Creek fishing is restricted to fly-fishing only.

b. The creel limit is 2 fish per day.

c. All fish less than 16 inches must be immediately returned to the water unharmed. No fish less than 16 inches may be in possession while fishing these waters.

d. No bait may be in possession while fishing these waters.

e. Fishing is permitted year-round on these waters.

Mossy Creek (Augusta County): That portion of stream upstream from the Augusta/Rockingham County line to a sign at the mouth of Joseph's Run.

Smith River (Henry County): That portion of stream from signs below the east bank of Towne Creek for a distance of three miles downstream.

Buffalo Creek (Rockbridge County): Artificial lures with single hooks only in that portion of stream from the confluence of Collier's Creek upstream 2.9 miles to the confluence of North and South Buffalo creeks.

Fishing on the following waters is permitted under the following regulations only:

a. Only single hook artificial lures may be used.

b. All fish must be immediately returned to the water unharmed. No fish may be in possession while fishing these waters.

c. No bait may be in possession while fishing these waters.

d. Fishing is permitted year-round in these waters.

Rapidan River (Madison County): That portion of stream and its tributaries (including Staunton River) upstream from a sign at the lower Shenandoah National Park boundary.

Reservoirs — Trout may be taken the year around in Fairystone Park, South Holston, Carvin's Cove, Flannagan, Lake Moomaw, North Fork of Pound and Philpott Reservoirs. The trout creel limit is 5 in these lakes (except South Holston which has a creel limit of 7). There is an 8 inch minimum size limit on trout taken from Carvin's Cove, Philpott, and Flannagan Reservoirs.

Northern Pike and Musky

Season : All Year
Minimum Size: Musky-26 inches
Pike-20 inches
Limit: 2 combined per day

Pickerel and Walleye

Season: All Year
Minimum Size: 15 inches on Gaston Reservoir
Limit: 8 per day for each species
Exceptions: South Holston—5 walleye per day.

All Other Game Fish

Season: All Year
Limit: No limit
Exceptions: South Holston—Sauger daily creel limit is 15. Gaston—White bass creel limit is 25.

Buggs Island: Mechanical lure launchers may not be used within 600 yards below Buggs Island Dam.

Walkers Dam: Only rod and reel and hand lines permitted within 500 yrads below dam. It is illegal to snag fish at Walkers Dam.

Virginia Game Fishes

"Game fish" mentioned in Commission regulations means and includes trout, all of the sunfish family (including largemouth bass, smallmouth bass and spotted bass, rock bass, bream, bluegill and crappie), walleye pike, white bass, chain pickerel, muskellunge, northern pike and striped bass.

Who Does Not Need A License

Persons not required to have a fishing license are: (1) residents under 16 years of age or 65 years of age and over; (2) landowners, their spouse, children and minor grandchildren within the boundaries of their own land; (3) tenants on the land they rent and occupy if they have the written permission of the landowner; (4) guest fishing in individually owned private ponds; (5) non-resident children under 12 (except in stocked trout waters) when accompanied by a properly licensed adult.

License Fees

(Obtain licenses from county circuit court clerks, city corporation court clerks and other authorized agents.)

County or city resident to fish in county or city of residence $3.00
State resident to fish only 7.50
Nonresident to fish only 15.00
Resident or Nonresident to fish statewide in private water or public waters not stocked with trout for 5 consecutive days 3.00
State and county resident to fish in designated waters stocked with trout, designated waters stocked with trout, in addition to regular fishing license 6.50
Nonresident to fish in designated waters stocked with trout in addition to regular fishing license 20.00
National forest permit (stamp) required in addition to license, to hunt, fish (except on the North and South Forks of Shenandoah) or trap on national forest 2.00
County dip net permit to take shad, herring, and mullet 2.00

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Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources
Volume 46, Number 4 *April 1986*

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"Brown Trout & Blue Flag" by Michael Simon. For more information about Simon's work, contact him at 4824 Ballyshannon Ct., Richmond, Virginia 23228.

SNEAKIN' UP on Trout

story & photos by Harry Murray

Playing hide and seek with trout may seem elementary, but it sure does catch more fish.

The six big native brook trout hanging from the tar rope on the youngster's shoulder were more than the old timer could take. "Young man," he inquired, "how did you catch all of those beautiful brookies? I've been fishing hard for the last five hours and have only two little dinks to show for my efforts."

"I try to put myself in the fish's place and think like a trout," replied the young boy. "I look around to see what they might eat and where they might go in the stream to get it. Then I sneak up on that part of the pool and try to see the trout. Once I spot him, I cast my fly over to him as carefully as I can to keep from spooking him. Sometimes I scare the trout, but sometimes I get lucky like I did with these brookies."

"That's not luck, son. That's plain smart trout fishing," replied the envious older angler. "You've taught me a valuable lesson I'll never forget."

Few of us are so vividly presented with the basics of trout fishing, but the fact that this happened many years ago high in our Blue Ridge Mountains makes its lesson no less valuable today. In fact, considering the angling pressure our streams receive today, it is even more significant.

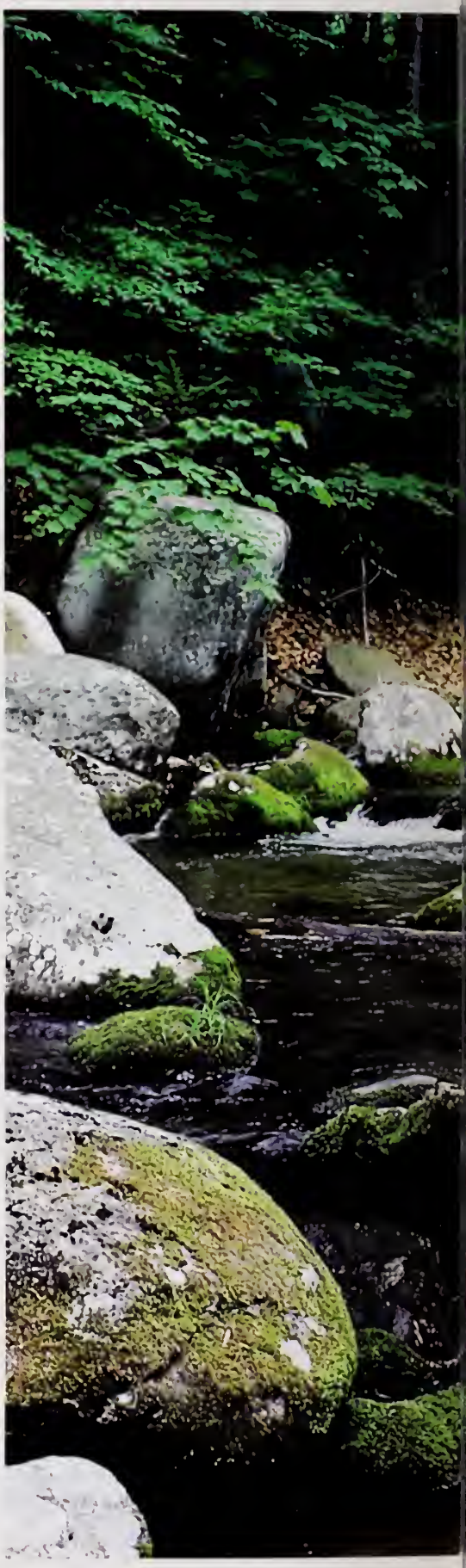
I honestly believe the most valuable skill a serious trout angler can develop is the ability to see trout in the stream. Since we all see lots of trout every time we go fishing, this may sound like an over-simplification to the beginning fishermen, but it is the one factor which can make the difference between a so-so day and a memorable one on a trout stream.

Such was the case last fall when I was guiding one angler on Naked Creek. This is an excellent brook trout stream receiving its cool flow from the shaded hollows high in the Blue Ridge Mountains. The cool nights had produced ideal feeding conditions for the brookies to feed on before the coming spawning season. Unfortunately, there were few aquatic insects hatching in the stream. This, combined with the fact that the stream was low, meant that in order to satisfy their demanding appetites, the trout were going to have to go out and search for their food, rather than hold onto one particular feeding station and let the food come to them.

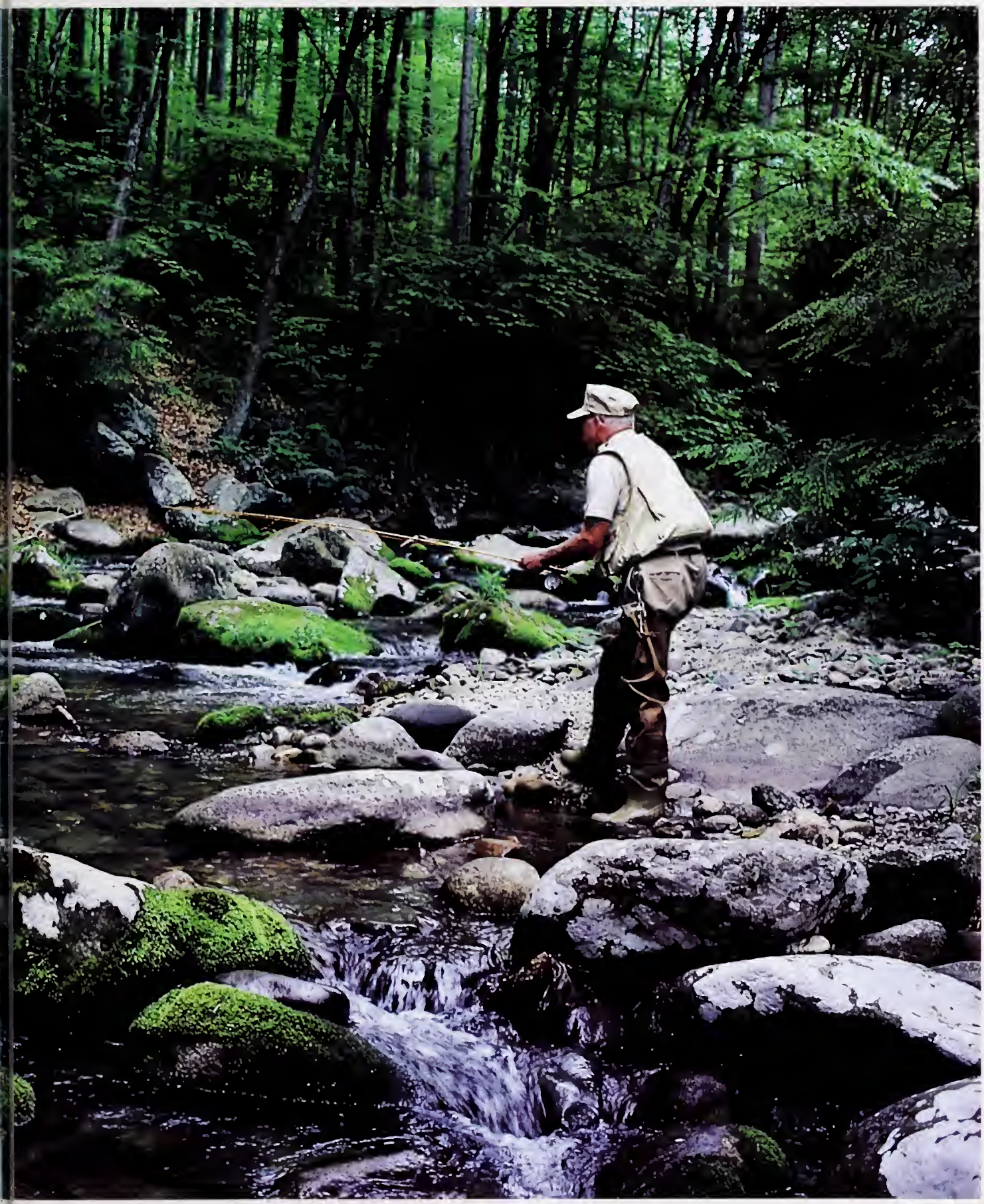
We had discussed this on the way to the stream, but my friend was so accustomed to fishing the well-defined feeding stations that he had trouble looking elsewhere. After covering several hundred yards of stream and taking only small fish, he looked back at me and demanded, "Well, where are the big fish you said were here?"

Rather than have another lengthy discussion on ground we had already covered, I decided to experiment. Since we had been fishing for about half an hour, I suggested we take the next half hour and fish only to trout we could see in the stream. If we didn't see trout in a pool, we'd simply skip it and go to the next one.

It worked. In the next half hour *all* the trout my friend caught were larger than the biggest trout he had taken before. We continued using these tactics for the rest of the day. That evening, while walking back down the mountain, my



Sneaking up on trout and actually locating them by a flash of a fin or a telltale shadow on a stream bottom will improve your chances of hooking a fish.



(Above) Brook trout can be spotted easily by the white edges of their pectoral fins, making their otherwise well-camouflaged bodies stand out from the stream bottom.
(Right) Trout will sometimes dislodge vegetation in cress beds in the summer. A watchful angler can pinpoint a trout's location by following the dislodged debris upstream.

friend said that this had been the best trout fishing day he'd experienced in his 20 years of fishing Virginia streams.

It's obvious that *seeing* trout makes a difference. But, what can help you see them? Polarized sunglasses are almost a must. They cut through a stream's surface glare, allowing you to see into the water. Do not confuse these with conventional sunglasses which simply make everything darker. Polarized lenses have special properties that block out reflected light rays. Some anglers choose the darker blue and green shades to wear on bright days, but on dark days or shaded streams, I definitely prefer the lightest tan or yellow lenses I can find.

Another great help in seeing fish is a large-billed hat with a dark colored underside. Many fishing hats on the market today are cute, but are almost worthless in helping us to spot fish—I found that out the hard way. And, although our normal clothing will not affect the way we see trout, it does influence how well they can see us. Fishing clothes of subdued colors and shades that blend in well with the immediate stream environment are preferable. That bright orange hat is great for deer hunting, but it's just like putting a flashing beacon on your head as far as the trout are concerned. Whenever possible, stick with clothing which is a shade of green, tan, brown, or gray with a non-reflective surface.

Once you're on the stream, it's important to approach each pool slowly, and with extreme caution. This requires an all-out effort on your part, and is much harder work than just charging up the stream shooting one cast here, and one cast there, hoping to get a strike.

Learning to take advantage of the physical make-up of the stream and the natural available light is important, too. If at all possible, I like to approach each pool with the sun over my shoulder. This light angle, along with a straight overhead sun, is best for seeing fish. Utilizing streamside boulders and trees on the far side of the stream to block direct or reflected sunlight coming straight at you can also be a great help.

If there is enough wind around to ripple a stream surface, spotting fish can be a real problem. The best way I have found to combat this situation is to concentrate on the lee area. Portions of the stream protected by large boulders or high banks may not get whipped up like most of the stream. In fact, some of the best fishing I ever had has come from these areas on windy days. But this makes sense once you consider just how the wind affects the trout. First, there are extra insects blown into the stream under these conditions and the trout feed readily upon them. Second, the extra chop on the water prevents the trout from being able to see us easily.

But, even if you carefully approach a pool and cautiously peer into its depths, you still will seldom see a whole fish. Rather, you will see what I call "triggers." Normally, you'll get just a fleeting glimpse of something that says "fish here." These little indicators which instantly cause our eyes and brains to focus on one specific spot can be learned, and are the real backbone for making this approach part of our everyday

angling game.

A trout's "movement" is by far the easiest trigger alerting us of his presence. I am not talking about seeing a trout race up to the head of the pool as you enter the tail. In this case, you have spooked the fish and he will not feed for some time. The type movement I am talking about is that subtle adjustment made by a trout as he turns to take a natural insect. Often, you'll just see a sudden flash of light from his side or belly. Not only does this betray his location, but it's a sure sign that he's "on the feed." This quick flash usually means he's feeding on natural nymphs, and if you want to play the game his way, you can cast an artificial nymph several feet above him and watch closely for movement as he turns to take your fly. The same flashing turn which betrayed his presence is now your signal to strike and set the hook. If your drift is perfect, and your nymph comes straight to the trout, all you may see is what we call "whiting the nymph," that glint of white of a trout's jaw snapping at the fly.

Another trigger that gives away a trout's presence is a shadow cast on the stream bottom. Often this can be as easy to detect as his movement, but it requires a more careful scrutiny of the stream. On streams such as Cedar Creek which have many areas of clean gravel, this is an easy method of locating the trout. Again, you will not see the trout on your first glance. Instead, by carefully scanning the pool, you will become aware of a dark area which just does not blend in with the general stream bottom composition. Closer study may make out a trout just above this shadow.

Many of these clean gravel areas are in the lower portions of the pools. Trout located in these slow shallow tail areas are very spooky but they are in these areas to feed. I like to crawl into a casting position below, and well to one side of these trout. After observing them for a few minutes, I extend my line and measure my cast below the trout so the flashing fly line won't spook him. Frequently, one shot is all you will get at trout in these areas, so take every precaution to make it a good one. A well-presented midge or ant will take lots of fish.

Although nature has done an excellent job in camouflaging trout to blend in well with the various forms of cover, there is one area which may have been too beautiful to alter for any reason—the delicately ivory-edged fins of the wild brook trout. They blend in with absolutely nothing in the stream, and often as I land one of these highly respected trout, I feel this beauty mark was left there simply for our admiration. Even in the dark rhododendron tunnels on Laurel Fork in Highland County, these brightly colored fins on the brookies can betray their presence. It is amazing how many brook trout can be spotted simply by staying alert to this one part of their anatomy.

A trout's method of feeding also can often betray his location well before you can actually see the fish. Such is definitely the case with what I call the "mudders." These fish feed by dislodging insects from aquatic vegetation with the front part of their bodies. It is quite possible to see some of the old trout that have withstood the crowds of springtime anglers, move in below some cress beds on Big Stoney Creek and feed in this manner in the middle of the summer. The force of the current pushes the dislodged insects downstream where the trout then locates to feed on them. This is usually done in water less than two feet deep, which means this rooting is done close to the stream bottom.

Naturally, some mud will be forced downstream along with the insects. These mud tailings will often reach downstream five to 10 feet and can be easily seen by an observant angler. Simply tracing the muddy water upstream to its source will locate feeding trout. I like to cast just as the trout is completing this rooting and drifts back to feed upon the nymphs he dislodged. I strike just as soon as I see him move to take something. Sure, I draw a blank if he is sucking in a natural insect in preference to my fly, but that's all part of the game.

By learning to spot the trout in the stream, not only will you improve the quantity and quality of your catch, but the challenge of these one-on-one confrontations will become the high points of your angling game. It really works. □

Harry Murray is a frequent contributor, and among his other pursuits, teaches fishing and fly tying in Edinburg, Virginia.

Chris Baldridge

Watercolor artist Michael Simon perfected his art by doing what he loves best: trout fishing.

Of Paintbrushes & Fly Boxes

by Nancy Hugo

Michael Simon pulls out the *William Mills & Son* fishing tackle catalog he's had since he was 14. "Michael Simon," reads the teenage inscription inside the front cover, "fly tyer, ichthyologist, trout fisher." Below that is a list of his treasured fishing equipment:

4 fly rods
4 fly reels
1 spin reel
3 tapered fly lines (H-E-H, H-D-H, H-C-H)
1 level line D
700 dry, wet, streamer nymphs
52 spin lures
2 landing nets
1 wading jacket
1 pair waders

Almost an afterthought are two sketches on the catalog's back cover—a tiny whale and a tiny brown trout—but they're enough to make it clear that at 14, Michael Simon knew where he was going and he already had his tackle box packed for the trip.

At 39, cover artist and fly fisherman Michael Simon has fished trout streams all over the United States and Canada, and whisked a fly over the waters of six foreign countries. He has worked as a professional fly tyer, park naturalist, and hatchery worker, and if he's not been a professional ichthyologist, he has at least been a serious student of fish. His experience shows in his delicate watercolor paintings which have appeared in books, magazines, and private collections all over the country.

That he might become an artist could have been predicted. Simon's father was an accomplished artist and at one time taught art at Virginia State University. But nothing pointed to fishing in Simon's background. "My father did go fishing off a pier at Coney Island, once, but he didn't like it."

Simon's interest in fishing developed

"Rainbow & Aspen Leaves"

after reading *Moby Dick* in the fifth grade. Later he met trout in a book by Ray Bergamn and was soon pouring over issues of *Field and Stream.*

"It was through magazines that I decided to become a trout fisherman," he remembers. "As a child I related to the aesthetics of fly fishing. The fish were almost secondary to the tackle, materials, and traditions. I was a fly fisherman in my mind for 10 years before I became one."

Simon made his first fly rod from a spinning rod and taught himself to cast from magazines and books. He learned to tie flies from a one-page article in *Boy's Life.* Although Simon says he's not a fly fishing purist, he does have strong opinions about the sport. "I'd rather catch a 12-inch trout on a size 20 fly and 8-x tippet than a 3-lb trout on a size 10 hook."

It's a laudable philosophy that he's been able to back up with results. Four years ago, for example, he caught a 25-inch brown trout on the Big Horn River in Montana using a #20 Iwamasa Dun dry fly. (That's a little like going after Moby Dick with a straight pin.) Simon is as fussy about equipment as technique, and his gorgeous flies, most of which he tied himself, are not so much put as posed in his fly box.

Simon's paintings are as delicate as his tackle. Trout and salmon are his favorite subjects, and he renders them in watercolors, a "softer" medium than those used by most wildlife artists.

"Most wildlife artists work in oils or acrylics," Simon explains. "Those media give them more control and lend themselves to painting every feather and scale." Simon's work is more impressionistic, but he still strives for the scientist's attention to detail. For the sharp edges and identifying features of his fish, he uses a controlled dry brush technique.

It is not only Simon's choice of medium, but his subject matter that makes his aquatic scenes seem more placid than those of many other wildlife artists. "The old outdoor magazine school painted ferocious fish with gleams in their eyes," he explains. "A pike might be attacking a baby seal, a largemouth bass might be attacking a low-flying blackbird. That school tried to make a Loch Ness monster out of a bluegill.

"Today's readers are more sophisticated. They know that those things happen, but they're not the norm. I'd

"Cutthroat x Rainbow Hybrid"

rather paint a trout hiding under a deadfall or gently sipping a mayfly from the surface than a trout slashing through a school of minnows like a piranha."

It is experience that has made Simon sensitive to the behavior and habitat of the fish he paints, but he has not always been so well-informed. He remembers taking one of his earliest paintings to an experienced trout fisherman who didn't recognize the subject as a brook trout. "I was using others' art as models," Simon recalls, "and their colors were glorified and idealized. I turned to fish as models as soon as I could, but it took a while to be able to go fishing and plan on catching a trout."

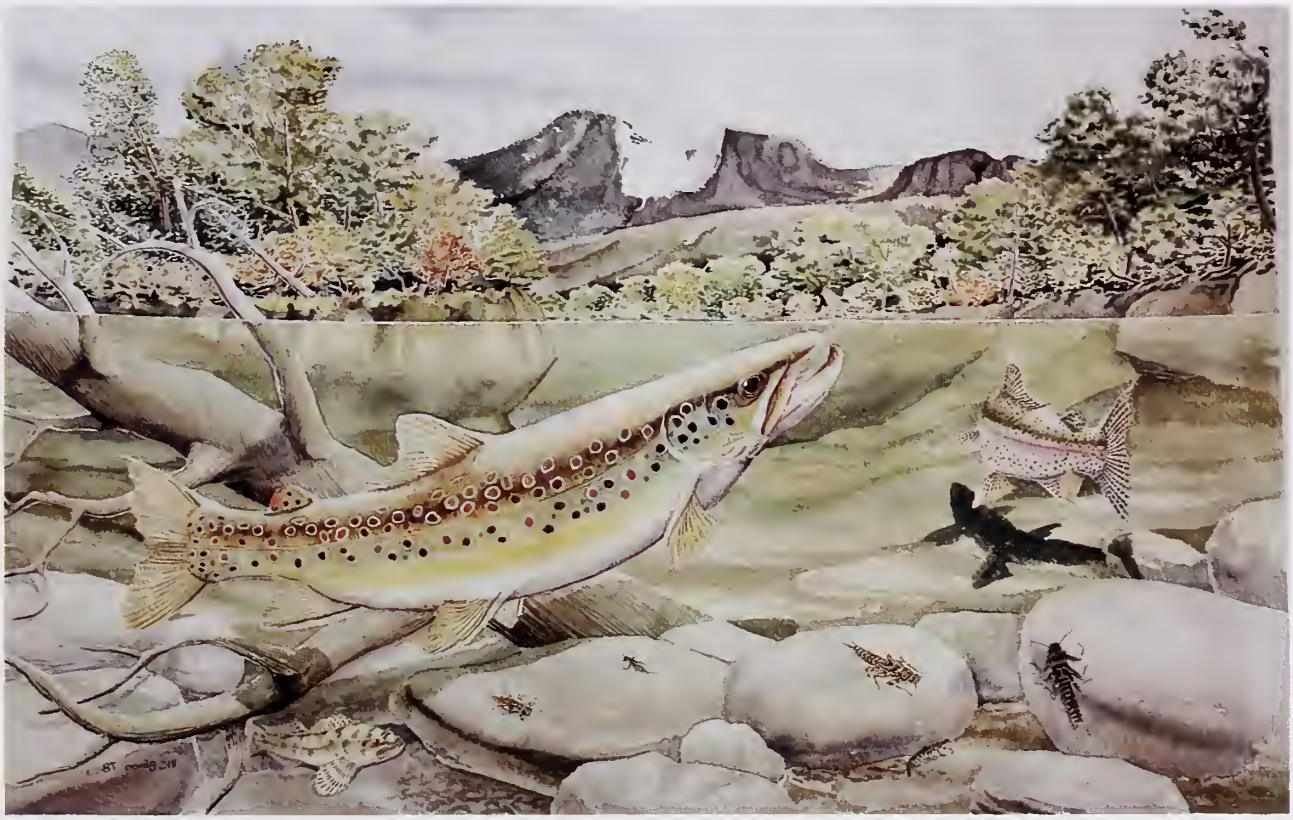
Today, Simon draws from photos, from his memory, and from what he has learned from scores of reference books. (He can turn to the 1496 *Treatise on Fishing with a Hook* by Dame Juliana Berners to prove that she tied the same flies he uses on Virginia's Rapidan.) Simon is also an amateur entomologist, and the insects in his paintings are as accurate and sensitively drawn as the fish.

Photography is a tool that Simon uses to help him with details—he lays each fish he catches on the shore and photographs it before returning it to the water—but he doesn't see photography as a substitute for his art. "My eye can see more than a camera can," he says. "A photograph just can't capture what a painting can. I can convey my interpretation of who the fish is, and why he's doing what he's doing."

Rendering fish as illustrations presents Simon with another interesting problem: how does one artistically fit a horizontal fish form onto a magazine or book page that is basically a vertical format? The editors of the beautiful *Freshwater Wilderness: Yellowstone Fishes and Their World,* a book that Simon illustrated, solved the problem by altering the book form—making it wider than it is long. Magazines can seldom be so accomodating, so Simon often finds himself looking for "new ways to bend fish without it being a cliche." The fish can be turning into or away from the viewer, jumping upward or plunging downward, but as Simon sums up the problem: "There are only so many ways to make a fish curve, and an extreme curve in a fish is not a very common position. It's a challenge."

Another challenge is pleasing the public most interested in his work.

"Ecosystem"



Fishermen are notoriously hard to please. "Every fisherman has his own interpretation of what a brown trout looks like," he points out. Once, a fisherman who had bought a painting of a brook trout brought it back and asked Simon to darken the fish's back. It seems the New Hampshire trout he was accustomed to seeing were almost coal black on top. Simon refused to change the painting because, as he pointed out to the fisherman, the fish was depicted in the water, where even the darkest black will appear lighter than the fish's belly, since it is lit by sunlight from above.

Even among such a finicky public, Simon's work has found wide acclaim. His paintings have been displayed at the prestigious Crossroads of Sport Gallery in New York, and the original illustrations for *Freshwater Wilderness* have been purchased by the Federation of Fly Fishers. Simon's illustrations have appeared in *Trout, Rod & Reel, Colorado Outdoors*, and *Flyfishing*, and his handsome 25th anniversary poster for Trout Unlimited graces many a trout enthusiast's wall. Simon has completed dozens of commissions for private individuals (including TV's "Cannon," William Conrad), and estimates that he has painted thousands of pictures of fish.

Some of these paintings were done while he was growing up and traveling with his family all over the world. When Simon's father left teaching and entered the foreign service, Simon traveled with his family to Egypt, Afghanistan, and Sri Lanka. He remembers taking an *H.L. Leonard* catalog and his fly rod with him to Cairo, only to discover he was several thousand miles from the nearest trout. He persisted in drawing trout there from memory. Subsequent trips and a stint in the Navy took him to Norway, Japan, Austria, and Yugoslavia where he was able to test the trout waters. He found the best trout fishing in Yugoslavia where there were abundant, well-managed trout waters, attributable in part to the leadership of Tito, who was himself an avid trout fisherman.

Simon's fishing experience in the U.S. is also extensive. He has fished from Maine to California, finding the best trout waters in Colorado, Montana, Wyoming, and Idaho. He has also

"Brown Trout & Streamer"

managed to turn his passion into a paycheck by tying flies professionally for Hank Roberts, Inc. ("It's more fun tying them for yourself."), and by serving as a naturalist at Yellowstone National Park where he taught visitors how to handle and release trout without harming them. He also worked at a hatchery in southern California where he learned enough about hatchery fish to describe them in one word: "'Dumb.' They lack the natural wariness of wild trout," he says. "And they're very easy to catch."

So what is this trout man doing in Richmond? Simon lives with his wife in the West End where he commutes to Virginia Commonwealth University graduate school. Simon, who has a Bachelor of Fine Arts degree from the University of Colorado, envisions a career in "historiography" (teaching and researching art history) which would give him the summers off to—you guessed it—fish. He would also like more time to experiment with his paintings. "I'd like to do more what I want and not what people know me for."

That doesn't mean he'll stop painting fish. "Fish are a life interest of mine," he admits. "If I were to give up painting fish, I wouldn't have the excuse to go off every weekend and do all this 'research!'"

Where does a trout fisherman do his 'research' when he finds himself plopped down in the middle of bass country? Simon, who says he needs a "fish fix" at least every other weekend, loves the Rapidan in Madison County where he fishes for wild brook trout. He also fishes in the Smith River below Philpott Dam for the "super challenging, extremely selective" brown trout. In the Tye River near Massey's Mill he caught two brown trout in the dead of winter, and on some weekends he drives to the Yellow Breeches near Allenberry, Pennsylvania to fish for brook, brown, and rainbow trout.

With the demands of school, deadlines for illustrations, and the lure of fishing, Simon is asked if he doesn't sometimes experience conflicts. "All the time," he confesses. Then he smiles. "I'm resolving it tomorrow by going fishing." □

Nancy Hugo is a freelance writer and naturalist who lives in Ashland.

"Inspection"

GREAT EGRET (*Casmerodius aldus*)

This large white heron that stands 40 inches tall breeds in eastern Virginia, but in late summer will wander into western Virginia. They are often seen attempting to swallow large prey. In their search for food (such as the sucker pictured here), they will walk slowly or stand in shallow water near the shoreline with their necks extended in a very stately manner. When a fish is sighted, they suddenly coil their necks for the attack. (*The great egret is also pictured on pps. 18-19.*) *Photos by Bill Portlock.*

Common Sucker

fish illustrations by Carl "Spike" Knuth

Fisherbirds

A photographic essay.

by Jerry W. Via

Take one look at our fisherbirds, and it's easy to understand how our own fishermen often abandon their good common sense in pursuit of invisible prey. The techniques used by herons, the elite of the fishing bird community, rival any harebrained idea that any idle fisherman ever dreamed up. And not only that, the birds have perfected every one of them.

Herons are well equipped anglers with many natural adaptations and methods of fishing that humans copy with much less style and success. Instead of the cumbersome rod and billowing line, herons utilize their exaggerated necks and legs to nab their prey. Their long legs enable them to fish in water in much the same style as the best of fishermen, but without the plethora of rods, reels, and tangled lines. Because leg lengths differ among herons, several species can feed in the same pond without competing for food. The long legs of large herons allow them to fish in deeper waters, while those with shorter legs are more likely to fish in the shallows.

While fishing, herons coil their long necks back like snakes ready to strike. With the lightning fast quickness of a hurled spear, they strike—seizing small fish between their upper and lower bills, and spearing larger fish with their sharp pointed beaks.

Any bow fisherman knows that fish are not in the same place as they appear from the surface of the water. To compensate for the diffraction of light from water to air, fishermen aim at a point slightly in front of the fish. But most herons don't need to guess at the distance. They have an eye line or sight line which compensates for this difference, and their aim along this line is slightly beyond the image of the fish, so that when they strike, their bills are right on target.

Unlike human anglers, one of the most striking characteristics of herons is their immaculate appearance. A diet of fish and frogs found in muddy ponds and marshes is hardly the way to keep clean (as many a 10-year-old fisher child will tell you), and herons have several patches of unique feathers called powder down, which produce a talcum powder-like dry cleaning agent that they rub through their feathers for waterproofing and cleaning.

Eleven different species of herons breed in our state, mostly in the coastal plain and on the marsh islands of the Eastern Shore. They are typically found along the coastline during the breeding season, but they may wander inland after breeding and during the winter months.

Herons, like fishermen, are always attracted to areas teeming with fish, and especially to places where fish are concentrated in pools by receding tides, or where a fresh supply of fish follows an incoming tide. In these areas at the right time of the day, it is not uncommon to see large groups of heron feeding, a scene reminiscent of anxious anglers on opening day of trout season.

Even with all of their marvelous adaptations, herons compete very little with fishermen, since they rarely seek trophy-sized fish. Most of their diet consists of small forage fish of common varieties, including species like killifish, white perch, common sucker, common shiner and golden shiner. However, herons are opportunists, and they will attempt to catch any fish, small or large, that might come their way. In fact, many a heron has been known to swallow a small flounder whole, leaving a very unsightly bulge in their usually graceful necks. □

Jerry W. Via is an assistant professor of biology at V.P.I. & S.U. and president of the Virginia Society of Ornithology.

TRI-COLORED HERON (*Egretta tricolor*)

This slender, medium-sized heron (26 inches in height) was formerly called the Louisiana heron, and feeds in shallow marshes and along the shorelines of our estuarine rivers and bays. It usually wades belly-deep in water, stalking fish (like the killifish pictured here) in a very deliberate manner. In large schools of fish, however, it often abandons its admirable control, and stabs at passing fish in a confused and erratic manner.
Photo by William S. Lea.

Killifish

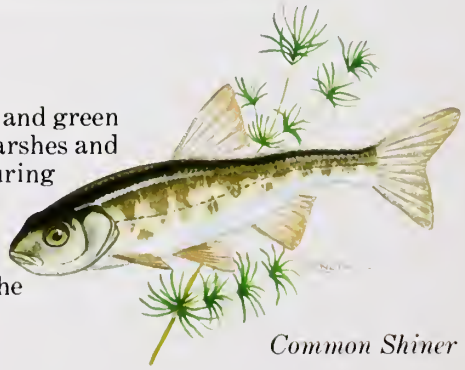
GREAT BLUE HERON (*Ardea herodius*)

This bird is the largest heron in Virginia, standing 54 inches high with a wing spread of almost six feet, and is locally referred to as the grey or blue crane. It is a common bird along shorelines, lakes and ponds across Virginia, and will nest at the top of tall trees and wooded swamps in the eastern part of the state. It usually fishes in daylight, but also feeds after dark in tidal marshes. While it is a very patient fisher, and often stands motionless for what seems like hours while waiting for passing fish (such as the white perch pictured here), it may also wade slowly into water up to 16 inches deep in search of its prey.
Photo by Williams S. Lea.

White Perch

GREEN-BACKED HERON (*Butorides striatus*)

This small, 16-inch dark heron with a bottle-green head and green back and wings, is mainly found in Virginia along marshes and inland ponds, creeks and river banks. It fishes both during the day and at night by remaining frozen in a crouched position on the shoreline or in bushes hanging over the water. The original angler, it prefers to use a lure, dropping a feather on the surface of the water to attract fish (like the common shiner pictured here) to within spearing range.
Photo by Gary Gaston.



Common Shiner

SNOWY EGRET (*Egretta thula*)

This completely white, medium-sized heron of 26 inches with a black bill and legs, is distinguished from all other white herons by its bright yellow feet. It is a common heron along the Virginia coastline. The snowy egret feeds in shallow water, and uses any number of fishing tactics to secure its prey. It will actively run or walk from place to place in search of food, and has been known to flash and rake its bright yellow feet along the bottom while shuffling along in an attempt to frighten fish (such as the golden shiner pictured here) to the surface. Like a fisherman always ready to try anything that works to *get that fish*, a snowy egret often shades the water with its wings to reduce surface glare.
Photo by Bill Portlock.

Golden Shiner

Living In The Danger Zone

How Do Smallmouth Bass Survive?

by Robert J. Graham and Donald J. Orth

We fish for them year after year, and never worry about whether or not they'll be enough of them around next year to flash a hook at. We never worry about disease, water levels, or temperature fluctuations with these fish. We never think about managing smallmouth bass. Why not?

Because these fish have adapted exquisitely to a niche in our freshwater ecosystems, one they have occupied ever since they were first introduced into our waters in the 1800's. Yes, smallmouth bass are "exotics" in our state, as are largemouth bass. We will never know how they affected the native species of our streams and rivers when some enterprising colonist first plopped them into our waters. We'll never know how they jostled their way into a place in our freshwater environment; we only know how they are doing now. And any fisherman in the state will tell you that they've made themselves right at home, without any help from us.

Smallmouth bass have adapted to the fast moving waters of our state. You find them thriving in the James, the Rappahannock, and any number of other rivers and streams in the cool transition area between mountain trout streams and the slow moving tidal

waters. Below the Fall Line, you get into the largemouth bass, smallmouth cousins that have become a part of the silt-filled, sluggish expanse of rivers ending themselves in the Bay.

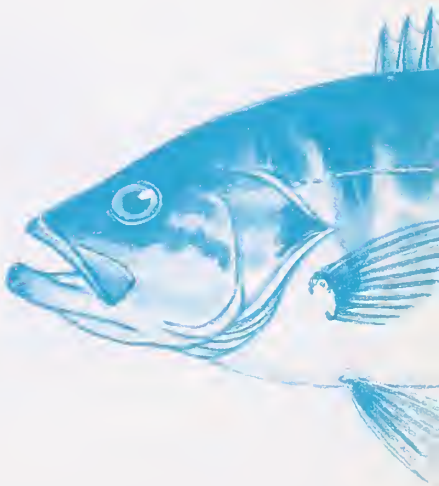
Because they have adjusted so well to the freshwater environment of our riffle areas and sycamore-sheltered pools, smallmouth bass populations stay healthy on their own, with no boost from our fish biologists. A look at how smallmouth bass sustain their populations in Virginia's streams illustrates a facet of the intimate relationship that exists between these stream-dwelling fish and their environment.

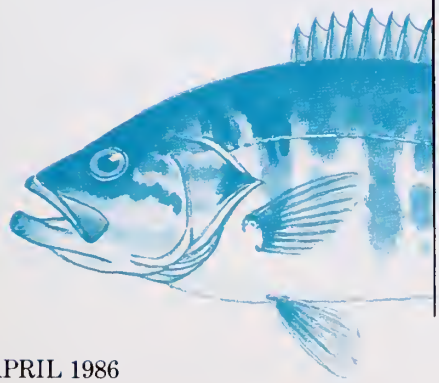
Increasing day length and rising water temperatures act as environmental cues for fish that spawn in the spring. Smallmouth bass respond to these cues by producing hormones that hasten the development of eggs in females and milt in males that began the previous summer.

When water temperatures reach about 60°F, around April or May in Virginia streams, the male, not the female, smallmouth bass begins looking for a suitable site to excavate his nest. A gravel bottom close to protective cover, such as a large boulder, is one consideration for a nest site—but that's not all smallmouth bass require. Heavy rains during the spawning season often result in flooding, which can spell disaster for a bass nest if it isn't protected from the current. Thus, smallmouth bass nest sites must be sheltered from the scouring action of turbulent currents during times of flooding to survive.

Once the male bass has found a suitable nest site, he fans away silt and sweeps out a saucer-shaped depression with his tail. A male instinctively constructs several nests before a female happens along. You can identify a nest by being on the lookout for a scooped-out depression and gravel that is cleaner than the surrounding stream bottom. Typically, nests range from one to two feet in diameter, depending on the size of the male.

After the nest is constructed, the male waits for a suitable female to arrive. This may be a matter of hours or weeks, depending on the number of available females and stream conditions. Probably the two most important aspects of stream conditions are water temperature and water level. Smallmouth bass generally spawn in June here in Virginia, when temperatures are within a range of about 60 to 77°F

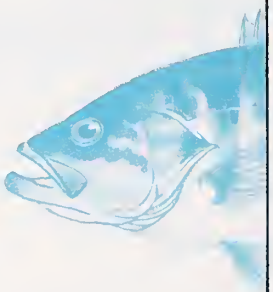




illustrations by Carl "Spike" Knuth

and water levels are receding.

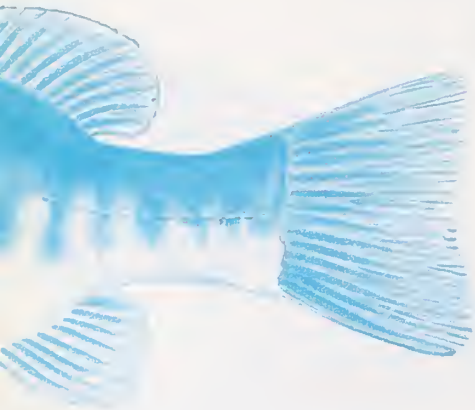
When a female does arrive and conditions are right, the pace picks up. The spawning partners will swim back and forth around the nest, with the male coaxing the female closer to the nest. Finally, both settle down side by side on the nest. The female releases between 1,000 to 3,000 eggs, which settle to the bottom of the nest, and the male fertilizes the eggs with milt. The eggs rapidly form a sticky protective covering that holds them securely to the nest's gravel bottom. A mature female smallmouth may carry up to 15,000 eggs, but only a portion of these are ripe and ready to be fertilized on any particular day. This means that the female will visit more than one nest during the spawning period, until all her eggs have been deposited.



Following spawning, the male becomes the sole guardian of the nest, a role which is vital to survival of the eggs. Many stream organisms, from minnows to crayfish, relish the taste of smallmouth bass eggs. Without the males' constant vigilance, few if any eggs would live to grow into adult bass.

The guarding male hovers over his nest, constantly on the lookout for potential predators. Should one approach too closely, he lunges towards it in an effort to drive it off. Even with this protection, about 25 percent of the developing eggs die. Rapidly falling water temperatures, fungus and the few predators who slip past the male's defenses can all contribute to the loss of eggs.

About a week after the bass have spawned, the eggs hatch. But the newly hatched fry remain in the nest's gravel, obtaining their nourishment from a yolk sac. When the sac is just about completely absorbed, the fry rise up out of the gravel and start actively swimming.



These young smallmouth fry are almost totally black, and so small that it is difficult to see them with the naked eye. Black fry school together and begin feeding on small insects and crustaceans near the nest. This is a critical period for the young bass, since a sufficient food supply is needed for growth and energy to swim after prey. Black fry are no different from any other young animals: to grow well they need frequent feeding. The male bass continues to guard his offspring while they school and feed, since their swimming ability is weak and they're easy targets for predators. Despite adequate

food supplies and the male's protection, however, at least 10 to 20 percent of the black fry in a given school will probably succumb to predators or disease.

As they grow, the color of the fry becomes more like that of adult smallmouth bass, greenish with vertical bars. They also begin to stray further from the nest in search of food. Eventually, the fry stop schooling and leave the protection of the male to make their own way in the aquatic world. By now they are nearly identical to their parents, though it will take them a good year to reach nine inches in length. Having developed their swimming ability, the young bass can now capture larger, faster food items and avoid many predators. However, many will become the food predatory fish and birds need to survive. It has been estimated that one to four percent of the eggs laid will survive as juvenile bass in the fall, but only two juveniles must live to replace their parents and maintain a stable fish population.

Year after year, new generations of smallmouth bass come into existence. Although the life of the young bass is precarious at best, with floods, short food supplies, and predators, enough bass reach adulthood to maintain a healthy population in Virginia waters. Smallmouth bass usually become sexually mature in their fourth year, when they are 11-12 inches long, and will follow the same reproductive pattern that their parents did.

So, you see, as long as our rivers and streams provide the features and components that smallmouth bass need to thrive, we need not worry about them. It's only when things get out of whack, and something is altered in that complex ecosystem in which they live, that problems start happening. The introduction of toxic and industrial wastes, nutrient loading, agricultural runoff, and stream channelization can all play a part in the decline of such a self-sustaining fishery. It is up to us to recognize that each human action has a reaction in the environment. It is up to us to decide which reactions we will or will not tolerate. As long as we maintain the health of our fresh waters, the smallmouth bass will keep dodging our hooks in Virginia. □

Robert J. Graham is currently an associate biologist for Virginia Power conducting research on smallmouth bass on the North Anna River. Donald J. Orth is an associate professor of fisheries at V.P.I.& S.U.

Fishing (Non) Sense

After 40 years of frustration, this author has given up trying to figure out the "science" of fishing.

by Joel Vance
illustrations by Jack Williams

"Under carefully controlled conditions, organisms do as they darn well please."

That is the Harvard Law of Animal Behavior and it is true for all sorts of wild creatures with whom I have been in uneasy contact over the years—wild turkeys, deer, various upland game birds, songbirds and, especially, fish.

You have but to lift the lid of my tackle box (be sure to slam it hastily, for there are things in there that would unhinge the mind) to know that here is someone from the dark side of angling.

Lord knows, I want to be a "with-it" angler, a paid-up member of the ichthyological intelligensia, but I just can't hack it. Fishing has just become too civilized, too esoteric, for me.

It used to be that early man, cursed with an empty belly, went about his hunting with savagery, but without much finesse. If something edible walked by, he hit it with a big rock and began chewing. If he missed with the rock, the animal began chewing on *him.* There was an incentive to find a safer way to knock food in the head, but another possibility was to find a safer food to knock in the head.

This proved to be the fish. Early man, spying the baleful eyes of paleolithic pike looking speculatively at him from the watery depths, set his unwrinkled brain to figuring out how he could bring them from their alien world into his, especially as filets dancing in hot grease.

Early man noted that fluttering insects quickly disappeared in an impressive swirl, and his ability to think logically told him the swirl was caused by a fish with a belly as empty as his.

"I bet if I tied a string around one of them horsefly's heads and hung it in the water, and one of them scaly water things swallered it," said Early Man to his mate, "I could jerk his hide right outa there and we could have us some fish and hush puppies for supper."

So, he tied a string around a horsefly's head and the fish swallowed it and Early Man jerked on the string, but succeeded only in giving the prehistoric perch a terrific surprise and a severe case of gastric stringburn, for there was no hook on which to snag the fish.

Then, a few million years later, a grunting cave dweller, scratching his head with a fingernail as tough as a tiger's claw, hooked out a chunk of his scalp the size of your thumb and, after screaming paleolithic obscenities consisting mostly of four-letter growls, he realized he had hit on something just shy of being as important as the wheel: the hook.

It has been uphill for the angler, and downhill for the fish ever since. Except, of course, for us anachronistic throwbacks to the age of the dinosaur who squat in the doors of our split-level ranchers, glowering at life and failing to comprehend the mystery of line and lure.

It took about 65 million years for Early Man to figure out how to catch supper. I've only been at it for 40 years, which is somewhat depressing. I do know about hooks; I just don't know what to do with them.

Oh, I catch the occasional fish, slopping my casts aimlessly on the water as if flogging galley slaves. Even the blind hog occasionally finds an acorn. But scientific? My angling is scientific in the same sense that scratching directions in the dirt with a stick is mapmaking compared to the efforts of a National Geographic cartographer.

If I read one more book telling me in endless detail how to catch fish by design, I'll scream. It's not as if I don't believe the authors who probe the substrate mysteries of lake and stream. I stand in awe of anyone who can read a trout's hunger pangs at 40 yards. I marvel at savants who can scan a depth-finder dial and see an eight-pound bass in an electronic belch. I grovel at the wader-clad feet of those who speak knowingly of structure fishing and holding lies.

But there is a quirk in me that recoils from such detail. It is the same imp who attacked when I was confronted by college algebra, a perverse little demon that crosswires my circuits and erases my databank. It says, "Vance, you are not genetically capable of understanding these things."

I've tried diligently to become a scientific fisherman, but can't even remember the names of the most common flies. The intricacies of nymph fishing are every bit as intelligible to me as Latvian poetry.

Most of my friends approach fishing with order and reason, and patience. They survey equipment, buy what is needed, read field manuals for fishing, practice their talents, start at step one, and then proceed in an upward direction.

I am more of the "come out smokin'" school that begins at the middle of something difficult and stumbles in both directions. There lurks in the back of my head the thought that if a creature with a brain the size of a No. 9 shot pellet is so smart, what does that make me? Maybe it's an extension of the ol' Dominion Over the Fishes philosophy, but I can't help feeling that fish should

". . . I could jerk his hide right outa there and we could have us some fish and hush puppies for supper."

do what I want them to do because I am smarter, stronger and more civilized than they are.

That they disprove this Biblical imperative almost daily is neither here nor there. Things should be the way things should be and if they aren't, it's not my fault.

This arrogant attitude has cost me trophy fish, turkeys, deer and a host of other wild things who, to be sure, may not be smarter than I am—but are a long way from being as dumb as I think they are.

I think the reason I fail to appreciate the intricacies of fishing is that I grew up with a cane pole/worm mentality. My grandpa may have heard of trout, but not from anyone who'd ever caught one. His idea of artificial bait was a dead worm instead of a live one. I believed in bait you could eat yourself if the fish weren't biting. We used to carry a sack of doughballs to the river, little succulent morsels of Wheaties and other good stuff that provided both us and the occasional carp with lunch.

Now, I can handle fishing with nightcrawlers or doughbait because there is little skill involved. You stick the appropriate bait on a hook, throw it in the water, jam the butt of the pole in the mud, lay back on the bank and go to sleep. If you're lucky, no fish will come along to disturb your tranquility. If your aren't, some dumb carp or catfish will foolishly swallow the hook and you'll have to get up, groaning and griping, and catch the dang thing.

That is fishing as it is practiced in my circles. However, since I was old enough to sneak-read the sunbathing magazines at the drugstore, I have been reading books on how to fish. Lack of comprehension of the basics of good fishing doesn't necessarily indicate stupidity. After all, I got good grades in history and probably would have scored well in the history of angling, too. But angling history isn't what's at stake. It's the physics of fishing we're talking about here.

I have attempted to quantify (notice that scientific jargon) some of the more basic physical fishing laws that you may not be aware of. Nevertheless, they do exist and they are universal truths:

1. Fishing success declines in proportion to the distance from home you travel and the amount of money you spend. A thousand-mile trip, costing your savings and the eldest of your children, will guarantee you no fish.

"Fish always jump on the other side of the river, lake, pond, that you are fishing on."

"If I read one more book telling me in endless detail how to catch fish by design, I'll scream."

You'll be lucky if the car doesn't break down and you don't get an exotic disease that will cause your nose to turn blue.

2. Anglers who always catch more fish than you do and laugh about it should spend eternity being painfully nibbled by bluegills, but they won't—they'll just keep on catching more fish than you do and laughing about it.

3. Fish always jump on the other side of the river, lake, pond, that you are fishing on.

4. The lure you have on is the wrong one.

5. The tackle shop is out of the right one.

6. Dogs eat more fine fishing rods than cans of dog food. Most of the rods have been mine.

7. Anti-backlash devices don't work.

8. Seasickness is not a problem on a small boat in a large body of water until someone eating summer sausage asks if you are prone to seasickness.

9. Water is always deeper than your waders.

10. There will be no witnesses when you catch the largest fish you have ever seen. If you keep the fish, no one you know will be home. The newspaper office will be closed and your camera will be broken. If you release the fish, people will applaud you, and secretly think you're lying through your teeth.

These are but a few of the immutable laws of fishing. There are many more, all dismal, all true.

There comes a time in each person's life when he or she must face the facts. In my case, I am not going to be drafted to play second base for the St. Louis Cardinals, nor replace Jerry West as guard for the Los Angeles Lakers (for one thing, he's been retired 10 years).

And I am not going to catch a trophy fish. I'm fated to hook little bluegills or the occasional half-pound bass. If I catch a trout, it'll be one so fresh out of the hatchery truck that it still calls a sack of Purina Trout Chow "daddy."

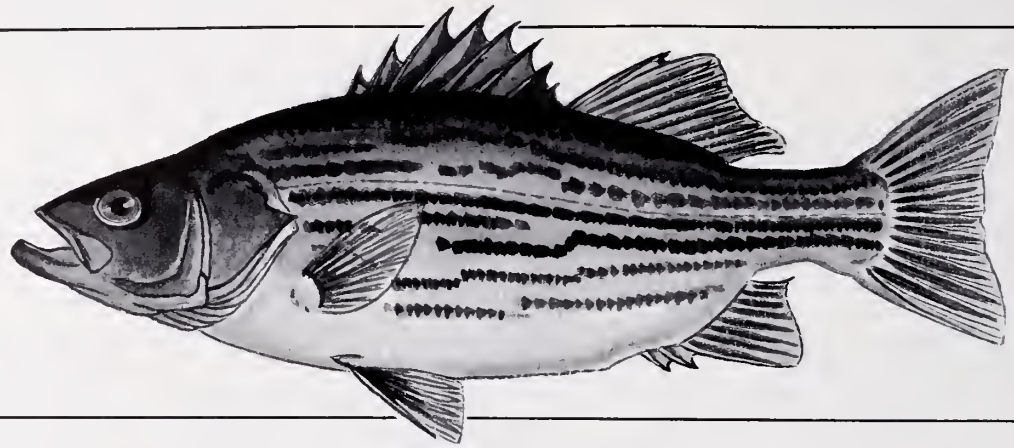
A new book came in the mail today. It's called *Secrets of Fishing* and it promises to tell me how to catch more and bigger fish than I've ever dreamed of. I should read it.

On the other hand, I think I'll just sit here and watch "One Day At A Time." □

Joel Vance is the news writer for the Missouri Department of Conservation, and is a freelance writer for several national outdoor magazines.

HYBRID STRIPED BASS

A new fish, a new opportunity.



Striped Bass x White Bass

by Ron Southwick

Pop! My float was gone from sight and the 4-pound test line was screaming from my ultralight reel. Could I have finally hooked that citation bluegill or crappie? After a drag testing battle, the fish in my net turned out to be a feisty 16-inch hybrid striped bass weighing two pounds.

The hybrid striped bass is a new fish in Virginia's fresh waters. It is a cross between the striped bass, *Morone saxatillis* and the white bass, *Morone chrysops*. Some people have dubbed this hybrid fish "Swiper," "White Rock," and "Wiper," but it's also simply called the hybrid striped bass.

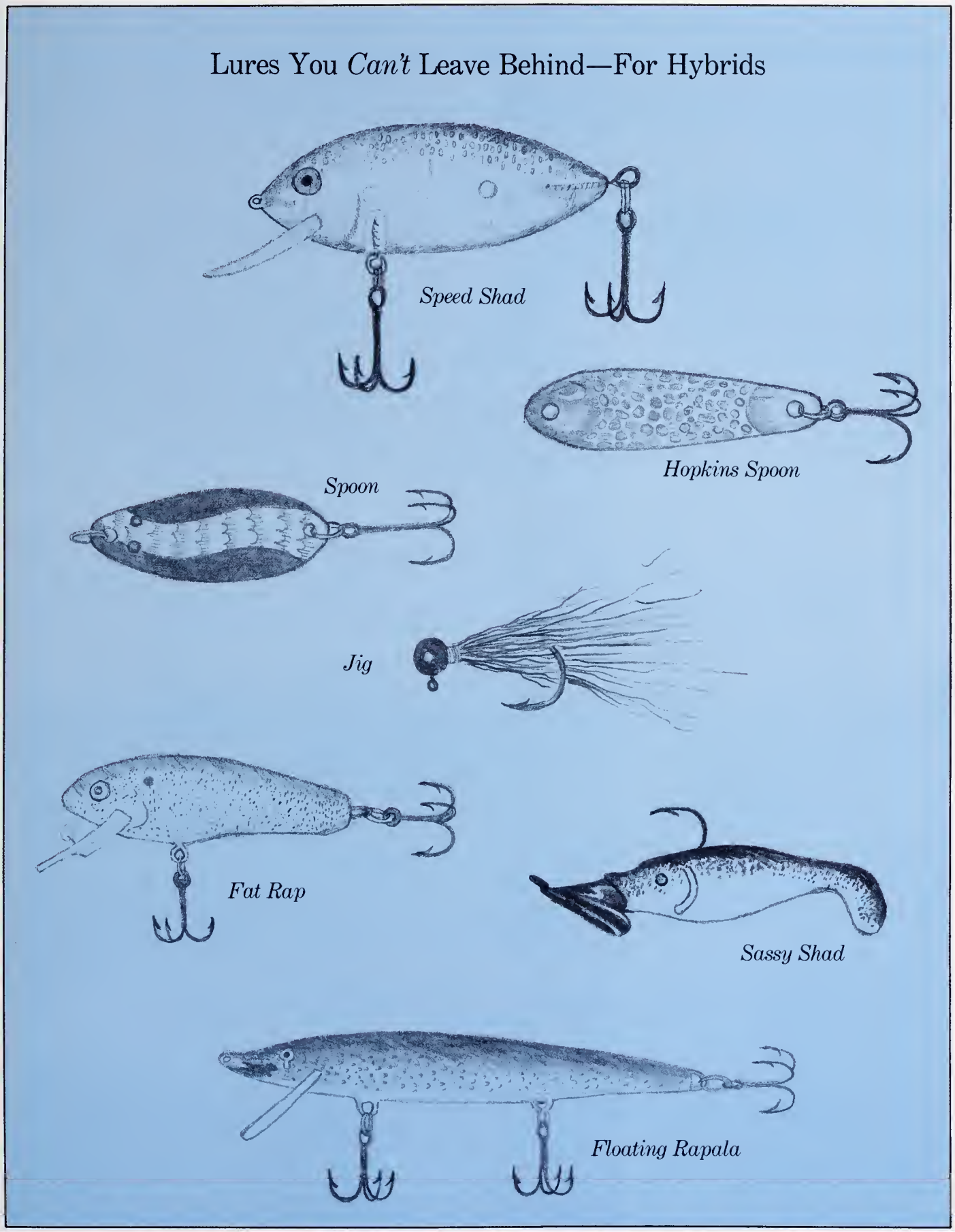
The first successful artificial cross between a striped bass and a white bass was accomplished in South Carolina in 1965. The original intent of the experiment was to produce a hardier fish with the desirable characteristics of both parent species. These characteristics were the large size, voracious feeding habits, fighting ability and good eating of the striped bass, along with the adaptability to different environments and less stringent spawning habitat requirements of the white bass.

Hybrid stripers take on more of the characteristics of their mother, the striped bass. In fact, when they're under 14 inches in length, it is very difficult to distinguish the hybrid from the striped bass.

Like the striped bass, the lines along the sides of the body of the hybrid are well defined. The lines on the hybrid striper are generally broken up, though broken lines on the side of the fish don't necessarily mean the fish is a hybrid.

As the hybrid striper gets larger, it develops a "hump" in its back, which resembles the body shape of its father, the white bass. But, while the white bass has one tooth patch on its tongue, the hybrid striper has the two tooth

Lures You *Can't* Leave Behind—For Hybrids



patches of the striped bass. Also, the hybrid has more distinct stripes down its side than the white bass.

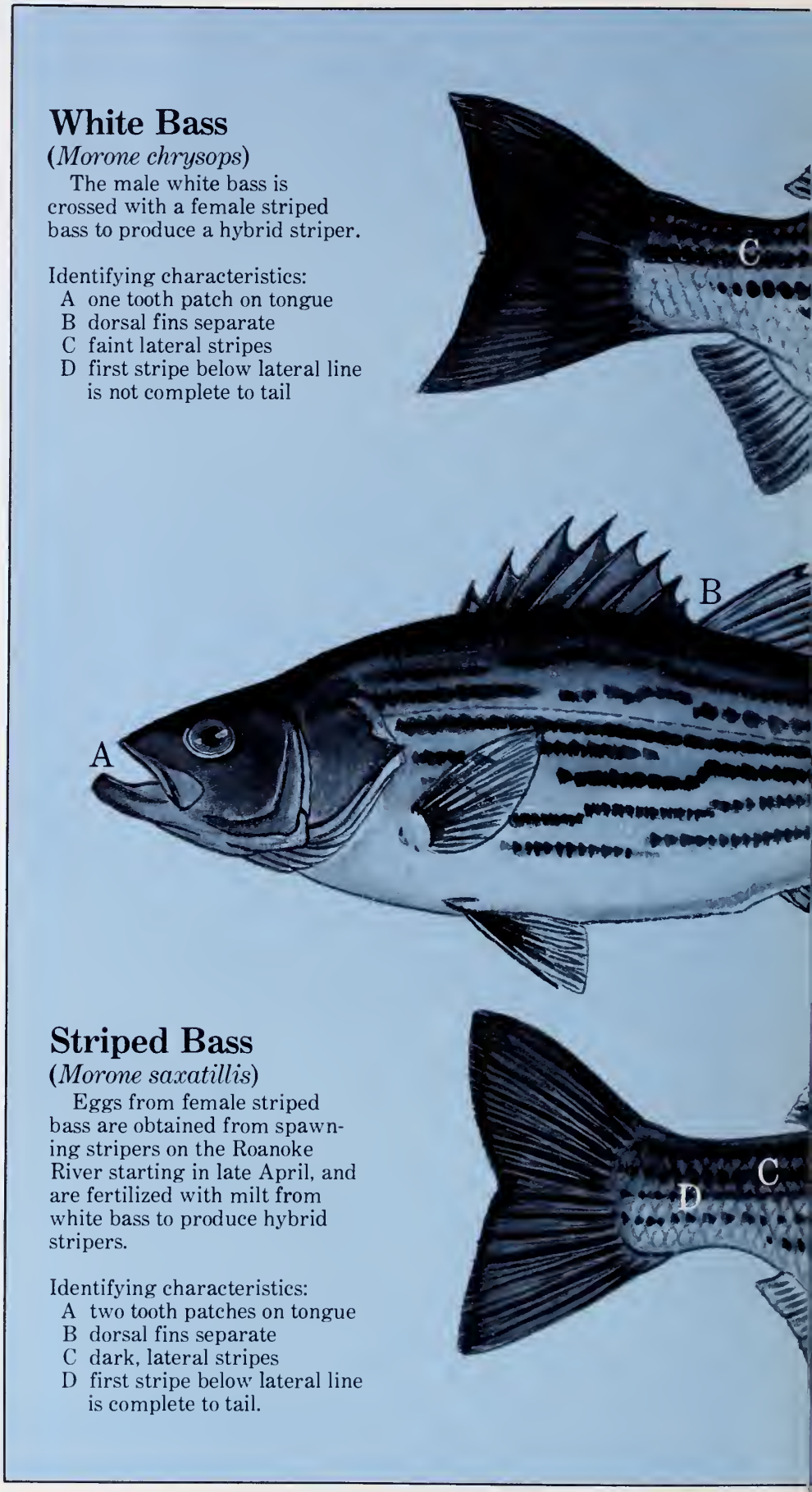
Lake Whitehurst in the Norfolk/Virginia Beach area was the first Virginia lake to be stocked with hybrids. Since then, the fish has been stocked in Lake Smith in Virginia Beach; Lake Chesdin near Petersburg; Lake Nelson in Nelson County; Occoquan Reservoir in Northern Virginia; and Rural Retreat Lake in Wythe County. These hybrids were stocked not only to provide another fishery for the public, but to control landlocked forage fish, such as the gizzard shad and alewive. These small fish, which are normally found in our rivers, become a nuisance in our large, shallow, man-made lakes. Their populations are difficult to control, and since their natural predator, the striped bass cannot tolerate warm temperatures, shallow waters, and much sediment in the water, we turned to the hybrid for help. And it's working.

Since the normal stocking rate is 25 fish per acre, the hybrids used to stock our lakes originate in the Game Commission's Brookneal Striped Bass Hatchery on the Roanoke River. Eggs are obtained from striped bass while on their spawning run up the Roanoke River starting at the end of April. The eggs are fertilized with milt from male white bass captured out of the South Holston Reservoir, and take 48-72 hours to hatch.

The young hybrids are placed in hatchery ponds where they are reared up to fingerling size of one to three inches. The survival rate of fingerling hybrids in hatchery ponds is usually twice that of pure striped bass fingerlings under the same conditions, and once stocked in lakes, they have faster early growth rates than stripers.

Recent surveys by Game Commission biologists show that hybrid striped bass stockings have been successful in all the lakes where they were introduced. Hybrids from eight inches up to 22 inches and weighing as much as seven pounds were found in Occoquan Reservoir in 1985. Although stripers in other states have grown larger, in Virignia, the hybrids reach 17 inches and average two pounds in less than two years. By the third year, they can be 20-23 inches long and weigh approximately four to six pounds.

Unfortunately, hybrid striped bass appear to be short-lived. Although it is



White Bass
(*Morone chrysops*)

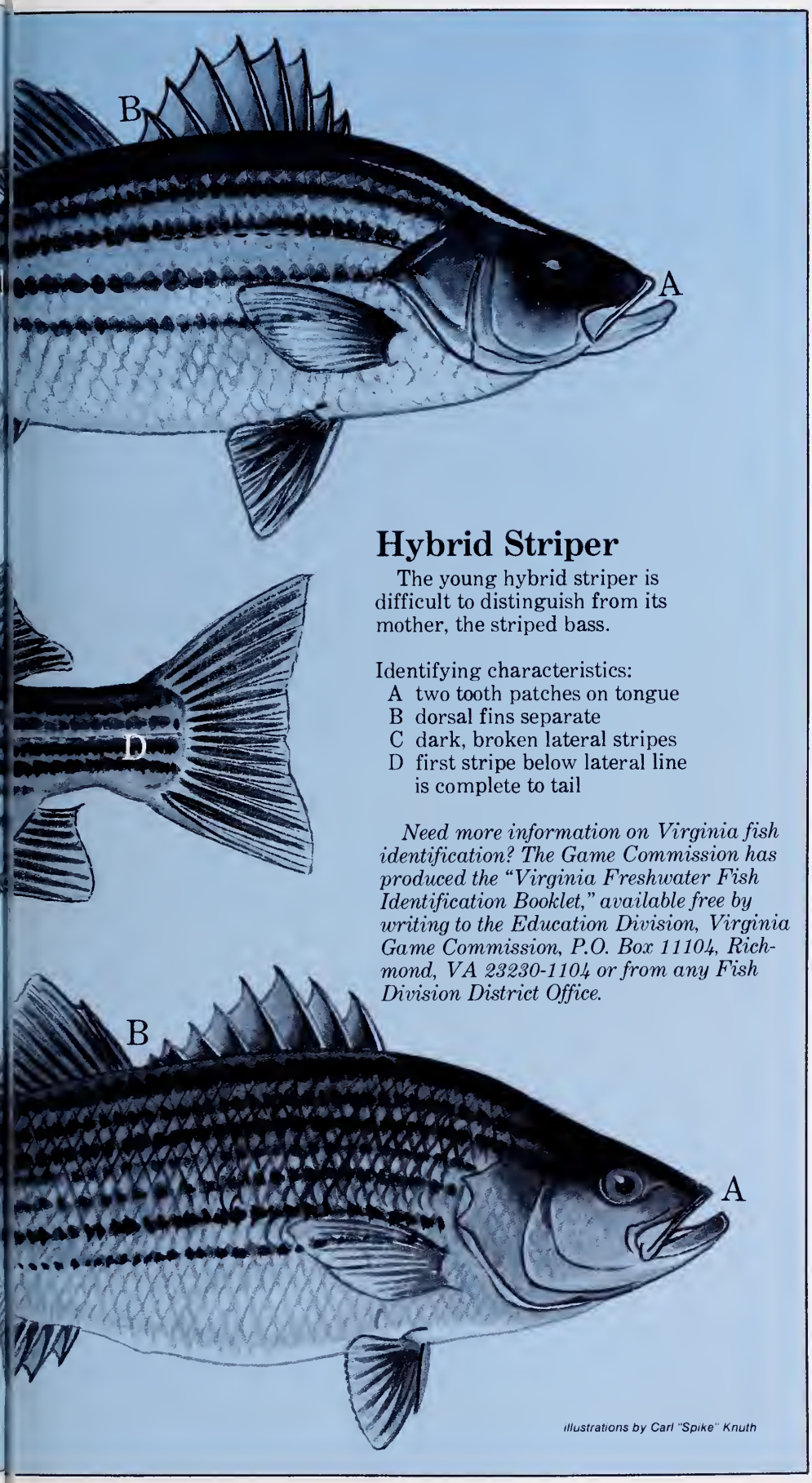
The male white bass is crossed with a female striped bass to produce a hybrid striper.

Identifying characteristics:
- A one tooth patch on tongue
- B dorsal fins separate
- C faint lateral stripes
- D first stripe below lateral line is not complete to tail

Striped Bass
(*Morone saxatillis*)

Eggs from female striped bass are obtained from spawning stripers on the Roanoke River starting in late April, and are fertilized with milt from white bass to produce hybrid stripers.

Identifying characteristics:
- A two tooth patches on tongue
- B dorsal fins separate
- C dark, lateral stripes
- D first stripe below lateral line is complete to tail.



Hybrid Striper

The young hybrid striper is difficult to distinguish from its mother, the striped bass.

Identifying characteristics:
- A two tooth patches on tongue
- B dorsal fins separate
- C dark, broken lateral stripes
- D first stripe below lateral line is complete to tail

Need more information on Virginia fish identification? The Game Commission has produced the "Virginia Freshwater Fish Identification Booklet," available free by writing to the Education Division, Virginia Game Commission, P.O. Box 11104, Richmond, VA 23230-1104 or from any Fish Division District Office.

Illustrations by Carl "Spike" Knuth

too early to tell about Virginia hybrids, the survival rate of hybrid stripers after four years of age in other states is very low. The cause for this may be due to the hybrid's early rapid growth rate, although it is not really known for sure. There have been no records of natural reproductions in hybrids, but the likelihood of any viable offspring is pretty slim. Nevertheless, during their life span, hybrid stripers are responsible for preying upon countless numbers of shad and for providing terrific fishing and table fare.

Early season anglers should be in for some dynamic fishing, since hybrids are even better fighters than their parents. Young gizzard shad appear to be the hybrid striper's favorite food, and they hit live shad or shiners with such ferocity that the smack of a float can be heard for some distance when it disappears below the surface.

Like their parents, hybrids are active in the early part of the year, and generally can be found concentrated around areas where there is moving water. During this time, no bait in the water is safe from the prowling hybrid. In the summer months when small shad are schooled up, it isn't uncommon to see hybrid stripers churning up some whitewater while chasing after the shad.

Any type of lure resembling a bait fish should be successful for hooking a hungry hybrid, and jigging spoons, crankbait, and bucktails are especially good. Trolling a whole nightcrawler rig can also be an effective method for catching them.

Remember that the hybrid is an open water fish, and once the water begins warming up, they will move out to the deeper areas of the lake, and vertical jigging with spoons or "dressed" lead-heads can provoke a hybrid into striking.

Hybrid stripers are protected by regulations. They must be at least 15 inches long to be legal size, and a maximum possession of four hybrids are allowed each fisherman per day. The citation weight for the hybrid striped bass is six pounds.

The hybrid striper looks like it's a fish that is coming into its own. With it's adaptability to our lakes, voracious feeding habits, and superb fighting ability, the hybrid striper is in Virginia to stay. □

Ron Southwick is an assistant fish biologist with the Commission's fish division.

Citing The Big Ones

A fish citation is not only a hard-earned honor, it's hard work for the Game Commission, too.

by Roy Edwards

Citation plaque given for a trophy size striped bass; photo by Roy Edwards.

In December, 1974, Wayne Williams told *Virginia Wildlife* readers of a day spent fishing on the Rivanna Reservoir just the year before. Any angler would understand the reasons for going out on a day laden with dark skies, 35 degree temperatures and a rain as steady as water from a well . . . wouldn't they? Anyone who has chased the same prize as Williams would understand. Williams described the moments following a long hard battle; "Instantly I made a mad dash for my tackle box to get my handy dandy fish scale. I hung the fish on it, and it went straight to 8 pounds. The scale will only weigh to 8 pounds, so the question was: Was it large enough for that coveted award I'd been striving for for years, the Virginia Trophy Fish Citation? I'd wanted this award more than the Medal of Honor for so long, that I'd given it up as a dream, and there I sat with the fish in my hand and still didn't know if I had it."

Well, Wayne's fish weighed out at 8 pounds, 7 ounces and is still on the records kept at the Game Commission. The Trophy Fish Citation Program started in 1963, and that year 249 anglers received recognition for catching trophy fish. Twenty-two years after its beginning, 7,212 citations were awarded to lucky anglers catching citation size fish in Virginia's freshwater fisheries. Indeed, you could say the program has come a long way, baby!

The first awards given were diploma-type citations which could be framed and hung on the wall. By the end of 1976, the Game Commission and Associated Advertising in Ontario developed the wall plaque which is still in use today. Each plaque, all 7,000 of them, are put together by hand. The weight of each citation catch is hand-lettered onto the plaques, and the name and date of the catch are typed on labels which are then applied to each award. This is no prejudice award program; carp, bowfin and all the sunfish are considered trophy fish, as are the ever popular largemouth and smallmouth bass and other more well known gamefish. Species labels for all 26 kinds of fish in the program are also applied to the plaques.

Return time on these citations varies according to the fish in season. When bass stop chasing lures, the number of citations slows down. By the same token, when the season is in, citations for bass pour into the Richmond office. For instance, in January, 1985, only five largemouth citations were recorded. March, 1985 was the busiest month for largemouth citations with 167 recorded. Throw in the other 25 species for the same month and that's a lot of work! While it may take as little as two weeks to process a citation award, it could also take as long as two or three months. There's only *one* person at Commission headquarters whose responsibility is putting the plaques together.

Before work begins on putting the plaques together, information from the green citation applications are entered into a computer. From this information, we can tell how many citations were caught in certain bodies of water, what months they were taken and the frequency of catch.

In 1986, additional information from anglers was requested. Blank lines requesting Social Security number and date of birth were added to the citation applications, not only to positively identify each individual angler, but to further research the demographics of the fishing population catching citation size fish. Just think, in a few years we'll be able to look at the records and say the kids are outfishing the old folks, or the ladies are catching bigger ones than their husbands!

Indeed the trophy recognition is nice, if you're one of the lucky ones to have caught a citation fish in Virginia. Perhaps the one thing we don't know about the program is how many anglers out there are really trying for that citation. There really is no way to tell because there are those anglers who are so proficient that they don't bother to report citation catches. Of course, there are those like me who try to keep the program running smoothly and still haven't caught the first citation fish. Somehow, I don't feel like I'm in the minority. □

Roy Edwards is an information officer with the Game Commission in charge of the citation program.

Trophy Fish: What do they tell our biologists about the water?

by David Whitehurst
Supervising Fish Biologist

It's great for the Game Commission to recognize anglers skilled enough to catch trophy fish, but does the citation program produce other benefits for the agency? The answer to that question is definitely "yes." The biologists analyze the citation records for the various lakes and streams in their areas in different ways. First, they examine the total number and size distribution of each species caught in a particular body of water. Then, they combine this information with citation records from earlier years for trend analyses.

Commission fisheries biologists normally utilize a variety of sampling techniques, (electrofishing, angler survey, net samples, chemical samples, etc.) to evaluate the status of fish populations across the state. However, all of these methods have limitations, so the biologist must make his evaluation by studying the results of several different samples. The fish citation data is usually a valuable component of the sampling information, and since the Commission does not have the resources to sample all public waters every year, fish citation data is particularly important in interim years between major surveys.

By now you are probably wondering what the citation records tell the biologist about a fishery. Obviously, it tells him which lakes and streams in his district are producing trophy-sized fish. However, citation records also provide information concerning the recruitment and growth of some of the important species in lakes and streams. For example, if a lake produces a large number of citation largemouth bass, recruitment and growth of that species has probably been good for at least several years. In other words, the citation data indicate that the largemouth bass in this lake have been reproducing successfully and a good percentage of the young fish have been surviving and growing rapidly enough to reach large sizes.

Also, several years' worth of citation records can reveal trends in the numbers of the resident species as well as information on their reproductive success. If a lake consistently produces good numbers of citation for a particular fish, its population should be relatively stable. Consistent citation numbers of fish over a number of years not only suggest that anglers are interested in this species, but also that fishing pressure has probably not been excessive. Conversely, a sudden decline in the number of citations for a species can serve as a valuable warning flag that problems exist with recruitment, growth, or fishing pressure.

Historical citation records have also been very useful in documenting the elusive quality and value of a lake or stream. Our waters are constantly subjected to development proposals, and while the economic benefits of these proposals are easily calculated, the true value of a stream or lake is often hard to quantify. Thus, our citation program can help. Water that traditionally produces large numbers of trophy fish are usually recognized as being very valuable.

Citation records also are particularly useful for evaluating the results of the Commission's stocking programs. The agency's fish division operates several fish stocking programs to produce fisheries in public waters. Citation records can be very useful in documenting the success of these programs.

The citation program has been instrumental in monitoring the development of muskellunge fisheries in several of the state's lakes and river. This fish usually occurs at low densities and is difficult to collect in numbers by traditional sampling techniques. Citation records have played a major role in documenting the condition of this fishery across the state.

Some sportsmen theorize that removing trophy fish from a population tends to deplete the fishery because the program encourages fishermen to destroy large fish. But, large old age fish contribute less to population maintanence than young fish in their prime.

Citation data are not the biologist's panacea for his sampling problems, and his desire to know more about that invisible community living, breathing and swimming underwater. However, this program does provide him with additional information to add to his composite picture of a fishery. The important thing to remember is that a biologist's ability to manage a fishery increases as his understanding of that resource increases. The citation program helps to make that picture a little bit clearer. □

Commission Owned Lakes

Amelia Lake—Amelia County
Boat ramp, parking lot, fishing pier, bank fishing, no charge, regular hours, electric only, 105 acres.

Lake Brunswick—Brunswick County
Boat ramp, parking lot, bank fishing, no charge, 24 hours, electric only, 150 acres.

Lake Conners—Halifax County
Boat ramp, parking lot, bank fishing, no charge, 24 hours, electric only, 111 acres.

Lake Burton—Pittsylvania County
Boat ramp, parking lot, poor bank fishing, no charge, 24 hours, electric only, 76 acres.

Lake Gordon—Mecklenberg County
Boat ramp, parking lot, bank fishing, no charge, 24 hours, electric and gasoline under 10 HP permitted, 157 acres.

Nottoway Lake—Nottoway County
Boat ramp, parking lot, bank fishing, no charge, picnic tables, 24 hours, electric only, 180 acres.

Briery Creek Lake—Prince Edward County
Under construction, 812 acres.

Rural Retreat Lake—Wythe County
Boat ramp, parking lot, snack bar,
Boat launch - fee
Boat rental - fee
Swimming pool - fee
Tent site - fee
Regular hours, electric only, 82 acres.

Laurel Bed Lake—Russell County
Fee fishing area-opening trout day through Labor Day
Boat ramp, parking lot, bank fishing,
Primitive camping - fee
Regular hours, electric only, 300 acres.

Hidden Valley Lake—Washington County
Gravel boat ramp, bank fishing, no charge, regular hours, electric only, 61 acres.

Frederick County Lake—Frederick County
Under construction, 120 acres.

Keokee Lake—Lee County
National Forest Land, need Forest Stamp,
Boat ramp, parking lot, toilet facilities, no charge, regular hours, electric only, 100 acres.

Bark Camp Lake—Scott County
National Forest camping, need Forest Stamp,
Boat ramp, parking lot, regular hours, electric only, 57 acres.

Powhatan Lakes—Powhatan County
Boat ramp, parking lot, bank fishing, no charge, regular hours, electric only, 66 acres.

Horsepen Lake—Buckingham County
Boat ramp, parking lot, bank fishing, no charge, regular hours, electric only, 19 acres.

Lake Nelson—Nelson County
Boat ramp, shore fishing, camping-private campgrounds
Boat launch - fee
Boat rental - fee
Rent battery and motor - fee
Rent battery or motor - fee
Rent life preserver - fee
One hour before sunrise to 11:00 p.m., electric only, 40 acres.

Lake Albemarle—Albemarle County
Boat ramp, bank fishing, no charge, one hour before sunrise to 11:00 p.m., electric only, 37 acres.

Fluvanna-Ruritan Lake—Fluvanna County
Boat ramp, bank fishing, no charge, 24 hours, electric only, 51 acres.

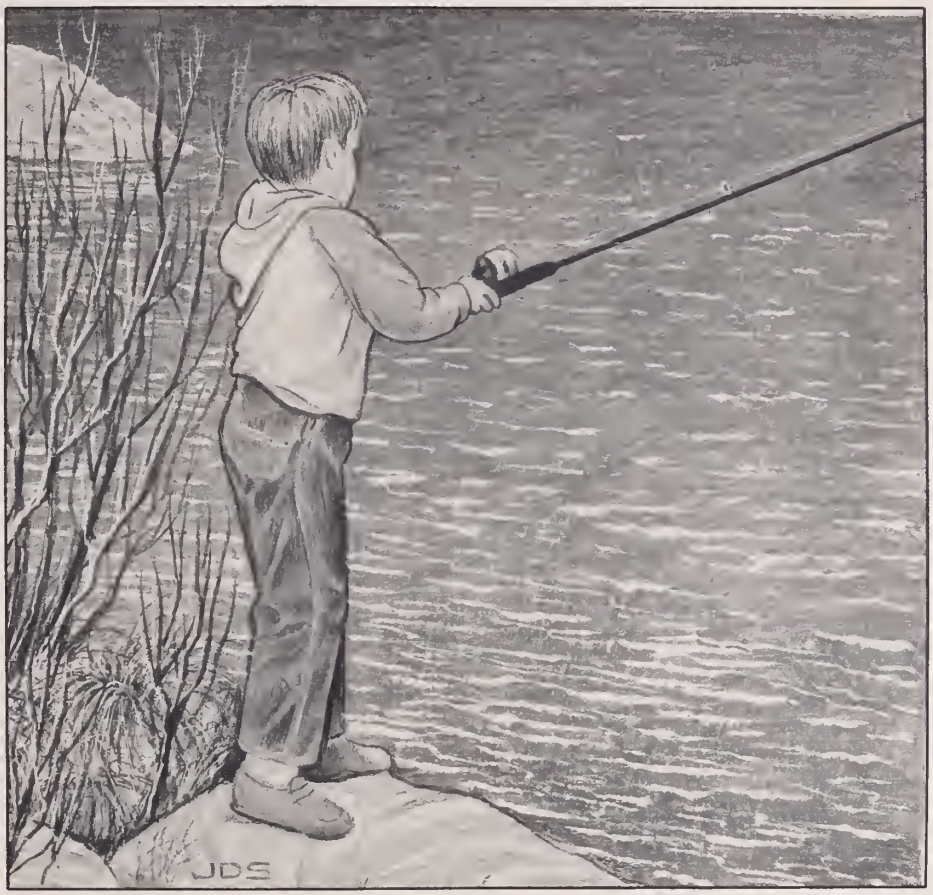
Lake Shenandoah—Rockingham County
Boat ramp, bank fishing, no charge, regular hours, electric only, 37 acres.

Lake Airfield—Sussex-Southampton County
Gravel boat ramp, shore fishing, no charge, regular hours, electric only, 105 acres.

Game Refuge Lake—Sussex County
No facilities, no charge, regular hours, electric only, 40 acres.

Lake Robertson—Rockbridge County
All facilities operated by County
Boat ramp,
Boat rental - fee
Concession - open 6 a.m.-9 p.m.
53 campsites - fee
Swimming pools - fee
Tennis courts - no charge
Picnic area - no charge
Softball field - no charge
12 miles hiking trails
2 children's playgrounds
May 20 - September 10, 6 a.m. to 9 p.m.
September 11 - October 31, 7 a.m. to 7 p.m.
November 1 - May 19, 8 a.m. to dark
Electric only, 34 acres

Lake Brittle—Fauquier County
Facilities operated by concessionaire
Fishing pier
Boat rental with oars - fee
Rent electric motor & battery - fee
Rent life preserver - fee
Private boat launch fee - fee
Boat storage - fee
One hour before sunrise to 11:00 p.m. on Fridays and Saturdays only from Memorial Day to Labor Day. One hour before sunrise to one hour after sunset all other times,
Electric only, 77 acres.



Lake Orange—Orange County
Boat rental with oars - fee
Fishing pier
Rent electric motor & battery - fee
Rent complete motor boat - fee
Rent life preserver - fee
Private boat launch fee - fee
Boat storage - fee
24 hour fishing on Fridays, Saturdays and holidays from April 15 - September 5.
Regular hours all other times, electric only, 124 acres.

Lake Burke—Fairfax County
Boat rental with oars - fee
Rent life preserver - fee
Private boat launch fee - fee
(They don't rent motors, batteries, or have any boat storage)
One hour before sunrise to 11:00 p.m. from April 15 - October 15. Regular hours all other times, electric only, 218 acres.

Lake Curtis—Stafford County
(Note: Stafford County will eventually develop a concession on this lake. Charges may be assessed when the concession is completed.)
Regular hours, electric only, 97 acres.

Regular hours—one hour before sunrise to one hour after sunset. (regulation hours)
Electric only—refers to outboard motors permitted-no gasoline.

A free highway map is available from the Game Commission that lists the locations of the public fishing lakes and boat ramps in the state (along with a map pinpointing locations). It also lists our wildlife management areas. These maps are available by writing to the Commission of Game and Inland Fisheries, Education Division, P.O. Box 11104, Richmond, VA 23230-1104. □

Boat Ramp Requests

by Larry Hart
Chief, Lands & Engineering

The Game Commission receives about 20 requests for new boat ramps each year. It takes us about two years from the time we decide to build a ramp to arrange the funding, buy or lease the property, design the facility, acquire the permits, bid the project, and finally get the access area constructed. We average about six new access areas per year, which leaves about 14 requests each year that do not result in a ramp, usually because recommended sites do not meet our minimum criteria for a public boat ramp.

That minimum criteria addresses several aspects regarding water, land, and construction costs. First and foremost, the water served by the boat ramp must be open to the public. On rivers, this means either below the Fall Line (tidal portions) or on those inland rivers that have been declared navigable. The water must be deep enough near the shoreline that we will not have to dredge. Dredging and maintenance dredging is too expensive for our limited budget.

For the same financial reason, the site should be close to a state-maintained road. The land must be owned by a willing seller or lessor since we do not have the authority to condemn property.

Also, the land areas must be large enough to provide adequate parking and a turnaround area. On tidal water and lakes, we need a minimum of three acres to work with, however, five acres provides room for future expansion, and is much better. Canoe and hand-launch sites on inland rivers can be smaller since boat trailers are seldom used, but we prefer that these sites be at least one acre in size.

And, the land to be used for the parking lot and turnaround area must be suitable for those purposes. It must have an acceptable slope and not be located in large wetlands areas.

One last, but most important criteria, is that the local government should be willing to accept maintenance responsibilities for the ramp. Since boat ramps are expensive to construct and maintain, we ask the local government to enter into a cooperative maintenance agreement with us before we build a ramp.

Although we identify more approved ramp sites than we can afford to build, we are always interested in additional sites. We do not build ramps on a first come, first served basis, but set and adjust priorities for ramps on a two-year basis to match our funding cycle. Still, the sooner a request for a boat ramp is submitted the better.

We have developed a handout covering certain aspects of boat ramp site selection, permits, design, construction methods and materials, and size that might be useful to you before you begin a search for a boat ramp site, whether public or private. If, after you read the materials, you want a public boat ramp and know of a site that meets our standards, just send the details to the Lands and Engineering Division. Be sure to refer to a specific site for a boat ramp in your request, since we do not have the manpower to investigate a "general area" for favorable sites.

For a copy of the handout, write to the Lands and Engineering Division, Virginia Game Commission, P.O. Box 11104, Richmond, Virginia 23230-1104. □

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April Journal

Letters

Sparking Opinions

I read with interest your editorial in the February 1986 issue of *Virginia Wildlife*. You certainly make a valid point concerning who will be heard and what the reaction of the public employee will be concerning public response. Only those groups that are organized and respond with the power of the voters and the public in general will get action. My only comment is that you can lead a horse to water but you cannot make it drink . . .

I look forward to continuing to receive *Virginia Wildlife*. I have subscribed for a year now. The magazine is a good one. Keep up your own work in trying to interest the hunting/fishing group in attending public meetings and writing to elected officials and making our needs known where it counts. In other words, keep up the good work. I for one appreciate it. I fully expect that my daughter and son will appreciate it one of these days too.

Stevan W. Pierce
Vienna

I am not philosophically opposed to either hunting or fishing as long as I don't have to participate. I worked with the Audubon Society for many years.

Frankly, I resent the supercilious tone of your editorial in the February '86 issue. Having had occasion to try to get "sportsmen" involved over many years, I found the hunters could see no farther than the end of their gun and the fishermen the end of their rods. I applaud the money Ducks Unlimited, hunting and fishing licenses, etc. funnel into preserving habitat, but I question that hunters and fishermen are thinking in terms of saving that habitat whether deer, turkey, bear, trout and muskies live there or not.

I believe you would help the professed goal of *Virginia Wildlife* by toning down your rhetoric vis a vis the Audubon Society and the Sierra Club (which I suspect offended many of your readers, although being more polite, they will not write as I have) and recognize that the situation will not improve until your magazine and similar magazines which cater to hunters and fishermen run frequent articles educating your readers on the broad conservation aspects of the problem. I challenge you to go to the library and read the past year's issues of *Audubon* from cover to cover. Of course, this is fairly heavy stuff and what *Audubon* readers thrive on—and what makes them active politically—which is what ultimately counts.

If your fishermen and "camo" hunters will not read what they need to know to save the habitat necessary for the game and fish they seek and become excited enough to apply this knowledge by constantly writing letters, appearing before legislative committees and town councils, we are indeed lost. It is only this broader approach which will save our environment so it will remain viable for future generations.

Considering how slow fishermen and hunters such as yourself continue to be in understanding these broader implications, I really don't hold out much hope.

Barbara McEwan
Goode

The editorial in the February issue was of particular interest to me as a concerned sportsman and active conservationist. You touched upon a crucial point, the lack of communication among conservation and sporting organizations.

I understand your use of certain recognized organizations to stress your concern over the lack of free exchange between these respected groups who have to achieve together the enhancement and the protection of the resource interest they have in common.

The most severe problem I have observed among these groups is a failure to see that abuse and destruction of our natural surroundings is within all of us. The "birders" who disturb the bald eagles at Mason Neck, the "hikers" who refuse to be rerouted on the Appalachian Trail, the littering "fishermen" on the Shenandoah, and trespassing and vandalizing thugs who masquerade as "hunters," are anathema to the stewards of our natural world.

If we are honest, we will admit that one or more of these phrases describe our own activities when carried to the extreme. Throwing stones is counterproductive and easily exploited by those whose financial interests will be served by our division.

Cooperation is far too important to abandon because of emphasizing and aggravating our differences.

Julian T. Bolton
President, Izaak Walton League
Northern Virginia Chapter

We Can't Hold The Line Any Longer

The price of *Virginia Wildlife* is going up. For seven years, we've held the line on subscription price increases, but we can't hold it down any longer. The cost of producing *Virginia Wildlife* has doubled, and on July 1, 1986 our subscription price will increase.

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Heron Habits

For more information on herons and their behavior, pick up *The Herons Handbook* by James Hancock and James Kushlan, Harper and Rowe Publishers, $24.95. Though not a field guide, this reference book gives useful information on diets and habits on herons. □